

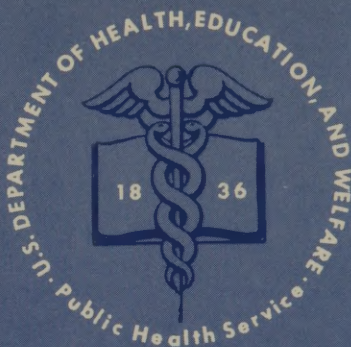
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PSYCHOLOGY
OF WAR

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PSYCHOLOGY OF WAR

LECTURES

DELIVERED BY

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WITH APPENDIX:

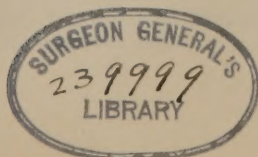
"CAUSES OF WAR"



Revised Edition

Fort Leavenworth, Kansas:
Army Service Schools Press

1918



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Works Most Largely Quoted in These Lectures

General Psychological Subjects:

- "*The Crowd*," by GUSTAVE LEBON, published by T. F. Unwin, London.
"*Psychology of Peoples*," by GUSTAVE LEBON (out of print), published by McMillan Co., 1898.
"*Psychology of Suggestion*," by BORIS SIDIS.

Psychology of War (in the order of their value on the subject):

- "*Études sur le Combat*," DUPICQ—Chapelot & Cie., Paris, reprint 1904.
"*Psychology du Combat de l'Infanterie*," LOUQUE—Charles-Lavauzelle, Paris, 1909.
An article on panics in *Revue d'Infanterie*¹ of November, 1907, translated in Military Information Document No. 12149, which is on file in The Army Service Schools Library.
"*Les Réalités du Combat*," GENERAL DAUDIGNAC—Charles-Lavauzelle, Paris. (A partial translation appeared in *Infantry Journal* of April and July, 1908.)
"*Training Soldiers for War*," FULLER—Hugh Rees & Co., London, 1914.
"*Actual Experiences in War*," SOLOVIEV. (Translation given in Military Information Document No. 9 of the War Department, Government Printing Office, 1906.)
"*Tactics*," BALCK (KREUGER'S translation), *Cavalry Journal*, 1911.
"*Infantry Masses in Attack*,"² MINARELLI-FITZGERALD.
"*Concerning Crowd Suggestion*,"² DR. HANS GUDDEN, Munich (a lecture).
"*A Summer Night's Dream*," ANONYMOUS, Hudson-Kimberly Co.
"*A Study of the Development of Infantry Tactics*," COLONEL BECA—McMillan Co., 1911.
"*War and the World's Life*," MAUDE, London.

¹ In French.

² In German.

The works above are all inexpensive, i. e., from 50 cents to \$1.25, except "*Tactics*," \$3.00 and "*War and the World's Life*," \$4.50.

Psychology of War

"A doctrine of tactics which does not properly appreciate the psychological element stagnates in lifeless pedan'ry."—BALCK.

Part I¹

IN OUR studies, we have seen much about the psychology of war, but most of this has been in the nature of general reference to the subject, such as Napoleon's statement: "In the war the moral is to the physical as three to one."

"The moral forces constitute the most powerful factors of success; they give life to all material efforts, and dominate a commander's decisions with regard to the troops' every act. Honor and patriotism inspire the utmost devotion; the spirit of sacrifice and the fixed determination to conquer ensure success; discipline and steadiness guarantee the necessary obedience and the coöperation of every effort."—*French Infantry Drill Regulations*.

"The modifications which periodically affect tactical theories are produced by the constant evolution of the principal factors in war, *i. e.*, the weapon and the man."

"Tactical science, therefore, possesses two indispensable bases: the science of arms, and the

¹The material in these lectures is not original, but will be found among the works cited on the fourth page. Where practicable, quotations have been used. In other cases the same ideas as held by an author have been used, but put in different language.

Part I is largely from "*Psychology of Peoples*" and "*The Crowd*," both by M. Gustave LeBon.

science of human nature." "And these two should form the foundation of the instruction of all officers."

"A leader's knowledge of war is incomplete," wrote Marmont, "if, in addition to his skill in conceiving technical combinations, he does not possess a knowledge of the human heart, if he has not the power of gauging the momentary temper of his own troops, and also that of the enemy."

"These varied inspirations are the moral factors in war, mysterious forces which lend momentary powers to armies, and which are the key to the reasons why at times one man is equal to ten, and at others ten worth no more than one."

In our tactical problems we have been accustomed to assume that 100 men equals 100 men. This is essentially *untrue*, and is used only because in theoretical exercises there is no other way of deciding the matter.

"In war there is nothing more important for a leader than the knowledge of the effect of certain things on the *human mind*."—Captain ORR.

"Leadership, to be efficient, must take account of all moral factors. Every leader of men, from a troop to an army, is necessarily a student of psychology, bound up, as it is, with the study of all the moral forces which play so great a part in war. Not the least important is a knowledge of the manner in which the opinions and beliefs of the men we are to lead in war may be affected by the ideas engendered during peace. The tendency in peace is to forget the importance of these forces. This is partly due to the fact that it is only under the stress of war that the more important moral factors betray themselves."—Captain ORR.

"On the actual field of battle, no two bodies of men of equal numbers (given equal tactical training,

equipment and physical condition—itself an impossibility) have been, or ever will be, equal in moral force.”—REZANOF. On successive days even, the same body of men will break the first day with a loss of 5 per cent, and the next fight its way to victory, in spite of a loss of 40 per cent.

On the *evening* of the battle of Wagram, Napoleon's right wing, possessed of a panic-like fright, fled. * * * * On the very same day these same troops were the ones who, by their heroic fighting, had won the battle.

At Winchester the surprised Union troops fled in the morning, but returned and won a victory before night.

There are two elements that enter to make these astonishing things possible: First, physical condition; second, purely psychological conditions. The first, to some extent, tends to produce the second. All psychologists agree that physical condition has a powerful effect on psychological susceptibility. A crowd of men that are tired, hungry, sick, thirsty, or who have lost sleep, are much more susceptible to psychic suggestion than the same men when in normal health and comfort. With a crowd of men who are worn out, sick, exhausted, the slightest suggestion is liable to produce a quick and most profound effect. What the effect will be depends on the suggestion. This is the basis for Soult's statement: "The soldier before dinner, and the soldier after dinner, are two entirely different beings." Remembering, then, that poor physical or nervous condition predisposes to psychic phenomena, we will approach the real reason why the same troops break easily today and fight like heroes tomorrow, which is that soldiers in battle have the same mental characteristics as a crowd, and a crowd is easily swayed.

On the first day the wrong influence swayed the crowd of soldiers. On that day some man said, "We are outflanked," or "The enemy is in our rear," and the whole crowd ran; no one looked to see if the report were true—most of the men had not even heard the report, but by a sort of mental telepathy they realized that the crowd was running away, and they ran also. They did not know why they ran, where they were running to, and most were even unconscious that they were running. On the next day they were just as easily swayed. The right man at the right time put in the suggestion that "We have them going now"—"Our other battalion is in their rear, and we will push them back and capture the whole outfit"—"Come on; let us rush them!" Exactly the same kind of blind rush, which yesterday was made to the rear, is today made—but it is made to the front. Losses are not noticed; the collective brain of the crowd is now centered on doing damage, and it forgets for the time that it is also suffering loss. *When an officer commands on the firing line, he must realize that his men are just a crowd, and that they must be handled like a crowd, not like the calm, respectful, obedient soldier of the drill ground.*

When one starts to investigate the psychology of war, he encounters the greatest difficulty in finding anything in English that directly treats of the subject. The object of these papers is to give a general glossary of the different works that I have been able to find in English, French or German, and to tell where enough works can be found to enable the student to begin the study of the subject, leaving each one to progress further, according to his individual desires.

The subject of psychology of war naturally divides itself into certain subheads, viz.:

1. Psychology of the suggestion of an idea to the individual man.

2. Psychology of crowds.

3. Psychology of crowds as modified by difference in race—that is, difference in mental characteristics.

4. Psychological influence on troops of the mass of the population.

5. Panics among troops.

6. Psychology of troops in action.

Napoleon used to deliver harangues to his soldiers that raised them to the highest pitch of enthusiasm. Such an harangue, delivered to troops of the *typical* American type, would produce only disgust and derision. That is a result of the different mental characteristics of the two races.

The same racial difference has led to the two principal schools of psychology. The French approach the subject by abstract reasoning, reach conclusions therefrom, and then prove these conclusions to be sound by citing historical examples. The trouble with this is that, while accurate history *may* enable us to determine what physically occurred, it very seldom is able to show accurately the moral or psychological reasons therefor. An officer whose troops have failed him is not apt to want to talk about it. He is not apt to try to discover the reasons—for such an attempt means an investigation that publishes his shame, and the shame of his troops, to the world. He is far more apt to aver that untold hordes of the enemy appeared, and that, after a heroic defense, his troops were beaten by vastly superior numbers. Even when the cause of a panic becomes known to a few officers, they are

apt to tell it in confidence to their comrades, but not to publish it abroad, nor put it in official documents. We attribute our success to our own valor, not to panic among the enemy. The real reasons for the acts of a body of troops are therefore impossible to ascertain.

The German schools of psychology—as might be expected from the race—are more prone to proceed, by accurate laboratory experiments, to demonstrate the scientific truth of some psychological proposition, and, from this accurate determination of minor facts, proceed to reason out rules of general application. This method is equally unsatisfactory to the average mind because, while we are willing to accept the small facts as proven by the experiment, we have a doubt as to the universal application of the rules so deduced.

Psychology is defined as “the science of the phenomena of mind.”—*Century Dictionary*. There are more than a dozen branches of the subject in which we are not directly interested—such as criminal psychology, infant psychology, medical psychology, etc., but we must devote some attention to the “psychology of suggestion,” as applied to the individual; the “psychology of crowds,” and the “psychology of races,” before we can intelligently consider the psychology of armies.

The Psychology of Suggestion

Instead of trying to define “suggestion” I will cite from “*Psychology of Suggestion*” (SIDIS) two or three examples of the type most familiar to us all and then point out their principal characteristic. (See “*Psychology of Suggestion*,” page 6.)

"I hold a newspaper in my hands and begin to roll it up; soon I find that my friend, sitting opposite me, rolls his in a similar way. That, we say, is a case of suggestion."

"My friend, Mr. A, is absent minded; he sits near the table, thinking of some abstruse mathematical problem that baffles all his efforts to solve it. Absorbed in the solution of that intricate problem, he is blind and deaf to what is going on around him. His eyes are directed on the table, but he appears not to see any of the objects there. I put two glasses of water on the table, and at short intervals make passes in the direction of the glasses—passes which he seems not to perceive; then I resolutely stretch out my hand, take one of the glasses, and begin to drink. My friend follows suit—dreamily he raises his hand, takes the glass, and begins to sip, awakening fully to consciousness when a good part of the tumbler is emptied."

To take an interesting and amusing case given by Ochrowitz in his book "*Mental Suggestion*:"

"My friend P, a man no less absent minded than he is keen of intellect, was playing chess in a neighboring room. Others of us were talking near the door. I had made the remark that it was my friend's habit when he paid the closest attention to the game to whistle an air from '*Madame Angot*.' I was about to accompany him by beating time on the table. But this time he whistled something else—a march from '*Le Prophète*.' 'Listen,' I said to my associates; 'we are going to play a trick upon P. We will (mentally) order him to pass from the "*Prophète*" to "*La Fille de Madame Angot*."' First I began to drum the march; then, profiting by some notes common to both, I passed quickly to the quicker and more staccato measure of my friend's favorite air. P, on his part, suddenly changed the air

and began to 'whistle "*Madame Angot.*"' Everyone burst out laughing. My friend was too much absorbed in a check to the queen to notice anything.

" 'Let us begin again,' said I, 'and go back to "*Le Prophète.*" ' And straightway we had Meyerbeer once more. My friend knew that he had whistled something, but that was all he knew."

These are trifling examples of suggestion, but they, or similar ones, are within our own knowledge. They illustrate what is meant by suggestion and bring out the main point connected therewith, viz.:

In suggestion "The subject accepts *uncritically* the idea suggested to him and carries it out almost automatically."—" *Psychology of Suggestion*," page 8.

In all these examples we can see one more characteristic of suggestion, namely, that the idea was *forced* on the subject. Had the subject been commanded to roll the newspaper, or drink the water, or change the tune, he would not have done so. They were *forced* to do these acts in spite of their will and almost without their knowledge.

We all know how the street fakir will extol the virtues of something we do not want till we feel impelled to buy it. The fakir understands the application of the psychology of suggestion, though he probably knows nothing of the subject scientifically. You have heard some person say of such a fakir, "He hypnotized me into buying it." In fact he did *not hypnotize* the buyer, but instead influenced the buyer's ordinary mind of suggestion. "Man believes as much as he can, but as a gregarious animal (member of a crowd) man believes whatever is suggested to him."—Professor JAMES. Psychologists assume that a person has two minds—the conscious mind, and the subconscious mind, and *that the conscious mind works only during waking hours, while*

the subconscious mind (a sort of instinct) *is always alive*. This assumption is made because it is a theory that seems to account for all psychic phenomena and is similar to the atomic theory in chemistry, in that, by its acceptance, we are able to reason correctly, whether the theory be true or not. In dreams or the hypnotized state the subconscious mind is alone working. In the ordinary daily life, only the conscious mind works; but if, by psychic phenomena, the conscious mind be suppressed in the waking moments, then the subconscious mind takes control of the actions.

The higher—that is, the conscious mind—is the mind of will and reason; the other is the unreasoning sort of instinct which makes us do the most unreasonable things in response to suggestion.

Some psychologists explain this by the double personality of the conscious and the subconscious personalities in the one brain. Others say the brain is like a huge switchboard, and that ideas are due to simultaneous excitement of different atoms of the brain, this simultaneous excitement being brought about by the excitement of one atom being passed to the other or others by the connecting filaments of the brain tissue. One part of the brain tissue, called the central cortex, is the part that gives us what we know as consciousness. These psychologists claim that the different atoms or ions of the brain may connect directly or through the central cortex. That is, when the excitement of one part of the brain is passed along a private wire, as it were, we act or feel, but we are not conscious of it. When the central cortex is also plugged in, then we are also conscious of what we feel or how we act. The *Psychology and Neurology of Fear* takes the view that there is a part of the brain, the central cortex,

which gives us what is known as consciousness. When that part is active we are conscious; when it is not, we are not conscious. Both these states may exist at the same time—*e.g.*, we breathe all the time, but are seldom conscious of it, even when conscious of other things.

In dealing with the subject of suggestion, it is well at the start to understand that there are two kinds of suggestibility to which the mind is subject, namely, the kind that is applied to what appears to be the plain, ordinary, everyday business mind—the normal mind, though here the subconscious mind is also active; and the kind that is applied to hypnotism—the mind in an abnormal condition, when the conscious mind is entirely suppressed. This hypothesis of the two minds in the one body was arrived at from the fact that a person who has been frequently hypnotized can, in the hypnotized state, remember about the former hypnotic delusions, but nothing of real life; while, in the conscious state, the same person remembers all the things of real life, but nothing about the hypnotic delusions.

The methods of influencing the subconscious mind in the conscious state and in the hypnotic state are different.

An hypnotized person is told, “You *must* do so and so”—“You *must* do it”—“You cannot avoid doing it,” “YOU MUST DO IT,” “*Do it now*,” and it is done. This kind of *direct* suggestion is the only kind that is effective on the hypnotized mind, but in the conscious state, with the clear, everyday mind working, this *direct suggestion* at once arouses opposition, and the will says: “I won’t be dictated to—I will do as I please.”

The everyday, normal mind is spoken of as being in the state of “normal suggestibility” and that

of the hypnotized and similar states of mind as being in a state of "abnormal suggestibility." In a state of normal suggestibility the mind finds yielding to the dictates of another mind repulsive, though it can be cajoled into obedience. Remember the remarks of the street fakir. He did not order you to buy, but instead pictured to you in glowing terms the advantages to be derived from becoming the possessor of his wares.

The conditions of normal suggestibility—that is, both conscious and subconscious minds apparently active—are:

1. Fixation of the attention on the subject of the experiment.

2. Distraction of the attention from all else.

3. Monotony—external surroundings must throughout the experiment remain the same.

4. Limitation of voluntary movement—that is, a person in motion or constantly shifting his position is not apt to respond to suggestion.

5. Inhibition—that is, the mind must be kept from wandering.

6. Last, but most important, comes *immediate execution*. If an interval of time intervenes between the receipt of the suggestion and the beginning of the execution, then the reason takes hold, and the will dictates the action. If the street fakir does not induce you to buy at once, you do not buy at all.

The conditions of abnormal suggestibility—that is, hypnosis—are the same, *except* the second and sixth, which are not essential, though the sixth is still a favorable condition in the hypnotic state.

Now the soldier on the firing line, with his attention fixed on the enemy with such intensity as to distract it from all else; with the continuous roar of the battle, and his limited range of vision; with his

movements limited for considerable spaces of time to those necessary to the manipulation of the rifle—in the supports and reserves not even that; with the blank mind that always attends fear, fulfills all the conditions to be ripe for the receipt of suggestion. Furthermore, crowds are more susceptible to suggestion than individuals. So we see why the soldier in the firing line is a specially good subject for psychic suggestion. The very fact that his attention is held without any action of his own will adds to the soldier's susceptibility. "The less voluntary the attention of a man is fixed, the easier it is held by exterior allurements, the larger will be the degree of suggestibility."—ALFRED LEHMAN.

The way in which suggestion must be given, to be effective, is different according to whether the subject is in a state of normal suggestibility or in the hypnotic state.

"Normal suggestibility varies as indirect suggestion and inversely as direct suggestion."—SIDIS.

Abnormal suggestibility—that is, hypnotism—is just the reverse of the above law, but as we are not much concerned therewith, that part of the subject will be pursued no further. On the other hand, we may at any time find it useful to know the factors that enter into normal suggestibility.

First, fix it in your mind that direct commands, such as military orders, are not obeyed by the subconscious mind, but that, as long as the subconscious is controlled by will and reason, so long are these commands obeyed by the will; there is no psychic phenomena about it. Remember also that suggestion acts, not on the will and reason, but on the subconscious. *Then get it clearly understood that, in*

normal suggestibility, the subconscious mind will respond to indirect suggestions, but will be revolted by direct suggestion.

In normal suggestibility the strength of the suggestion is dependent on the following factors:

1. Last impression—that is, of several impressions, the last is most likely to be acted upon.

2. Frequency—that is, repetitions, not one after another, but at intervals separated by other impressions.

3. Repetition—this is distinguished from frequency by being repetitions one after the other without having other kinds of impressions put in between.

“Repetition” is one-third as powerful as “frequency,” and one-fifth as powerful as “last impression.”

4. The strongest suggestion is obtained by a combination of “frequency” and “last impression.”

The above statements are the results of 1,650 laboratory experiments, the results of which are given by Boris Sidis.

These factors seem to have the same relative importance, whether applied to the individual or to the crowd.

The authors of speeches and writings which have made a powerful impression on the world have, consciously or unconsciously, made use of this law, and, curiously, the repetitions in such compositions are, making allowances for differences in rate of delivery of different persons, at about equal time intervals or multiples thereof, and the speech always ends with the strongest suggestions of the whole lot. Those whose curiosity is aroused in this regard may try it for themselves by reading aloud Anthony's speech at the death of Caesar from Shakespeare, or

Patrick Henry's "Give me liberty or give me death" speech, and notice how the repeated suggestions are each made stronger than the preceding. Good musicians find the same thing to exist in the musical pieces that have made a lasting impression on the musical world.

Now to illustrate, by an example, just what I take all this to mean, let us take the troops in a secondary attack. The men are in a state favorable to receiving suggestion. If the officer gives none, some coward's remarks may give the unfavorable suggestion that means panic. The officers from time to time repeat the statement that "As soon as the main attack gets in on their flank we will rush them and get the whole outfit." This, and similar suggestions, are frequently made. At the end the time to advance arrives and the order to advance gives the suggestion to each man. "Now we have them!" Under such conditions this advance will certainly have some vim and go to it.

Psychology of Crowds¹

"In its ordinary sense the word 'crowd' means a gathering of individuals of whatever nationality, profession or sex, whatever be the chances that have brought them together. From the psychological point of view, the expression 'crowd' means quite a different signification. Under certain given circumstances, and only under these circumstances, an agglomeration of men *present new characteristics* very different from those of the individuals composing it. The sentiments and ideas of all persons in the gathering take one and the same direction, and

¹In order to let you know that this subject is one of importance to the military profession, I will here say that a chair of "The Psychology of Crowds" has been established in the French War College.

their conscious personality vanishes. A *collective mind* is formed, doubtless transitory, but presenting very clearly defined characteristics. The gathering has thus become what, in the absence of a better expression, I will call an *organized crowd*, or a *psychological crowd*. It forms a single being, and is subject to the law of mental unity of crowds.”—LEBON, “*The Crowd*.” We may put this in another way and say: “From the psychological point of view, we should understand ‘crowd’ to mean an assemblage of men who are imbued with a *definite general incentive*, and who become somewhat organized thereunder.”—Dr. HANS GUDDEN.

“A thousand individuals accidentally gathered in a public place without any specific object in no way constitute a *psychological crowd*. To acquire the specific characteristics of such a crowd, the influence of certain predisposing causes, of which we shall have to determine the nature, is necessary. The disappearance of conscious personality, and the turning of feelings and thoughts in a different direction, which are the primary characteristics of a crowd about to become *organized*, do not always involve the *simultaneous presence of a number of individuals on one spot*. Thousand of isolated individuals may acquire at certain moments, and under the influence of certain violent emotions—such, for example, as a great national event—the characteristics of a *psychological crowd*. It will be sufficient in that case that a mere chance would bring them together for their acts to at once assume the characteristic peculiar to the acts of a crowd.” An entire nation, or an entire religious sect, though there be no visible agglomeration, may become a crowd under the action of certain influences. A *psychological crowd* once constituted, it acquires certain provisional but

determinable general characteristics. These vary according to the elements of which the crowd is composed.

A *homogeneous crowd* is one composed of elements more or less akin, as sex, casts, races, etc.

A *heterogeneous crowd* is one composed of dissimilar elements, and may be further sub-divided into crowds of an anonymous kind, such as street crowds, and crowds not anonymous, such as juries and legislatures.

A heterogeneous crowd possesses certain characteristics. A homogeneous crowd possesses the same characteristics, but side by side with them possesses additional ones that are not possessed by the heterogeneous crowd. The more ways in which a crowd is homogeneous, the more strongly will these characteristics be possessed. Thus, an army going to fight an enemy that all the individual members hate would be a homogeneous crowd, but if this army was in addition composed of individuals, all of the same race, same language, same customs, same religious belief, and same social class, then would it possess these same characteristics in a much more marked degree.

"It is well known that, in a crowd, a sudden impulse will affect men and produce curiously concerted action. The knowledge of this 'psychology of crowds' has often been used by leaders of men. After all, an army is a crowd with a common training, and therefore easier to move than any other crowd to unanimous action. *Hence the spirit which impels an advance, or a passive defense, or a retirement, may well have been transmitted by the leaders.*"—Captain ORR. Von Moltke implanted the idea of the "spirit of the offensive" in the minds of the whole German army. The leader whose own

ideas are not clearly defined and whose intention is vacillating will get only half-hearted action from his troops, while on the other hand, a determined man who has one clear idea will himself be surprised to see how the troops respond. “ * * * Above all, the personality of the commander will imbue a force with the determination to advance.”—BALCK.

“A couple of months after the battle of Chancellorsville, when Hooker had crossed the Rappahannock with the Army of the Potomac in the campaign of Gettysburg, he was asked by General Doubleday: ‘Hooker, what was the matter with you at Chancellorsville? Some say you were injured by a shell, and others that you were drunk; now tell us what it was.’ Hooker answered frankly and good naturedly: ‘Doubleday, I was not hurt by a shell, and I was not drunk. *For once I lost confidence in Hooker, and that is all there is to it.*’ ”—“*The Campaign of Chancellorsville,*” BIGELOW, page 477.

To illustrate by everyday examples the actions of a crowd, let us take an election crowd and the theater. The speech of our election candidate causes storms of applause, while, should a man of the opposite party ascend the platform, and in a few sharp and decisive sentences, deny the assertions, he would be hissed and jeered. It is a fact, well known to us, that paid claquers in the theater can lead the whole house to applaud.

In a crowd each individual becomes a grain in the heap. He loses all his former characteristics and assumes, individually, the characteristics of a member of the crowd. The disappearance of the known personality and the consequent suspending of feelings and thoughts (except insofar as they are part of the feelings and thoughts of the crowd), form the first fingermarks of the organized crowd.

A general incentive may be instilled into thousands of separated individuals through the medium of newspapers or through word of mouth from house to house; it is but necessary that this general incentive cause violent emotions for the fingermarks of a psychological crowd to at once appear. A few of these people coming together by mere chance will then act according to the manner of organized crowds.

Effects of crowds can be traced everywhere at all times and in all phases of human life, whether political, religious or social. Not seldom, as in the French Revolution or the Crusades, have these effects been felt all over the civilized world.

Now what are the inborn attributes of crowds? We have already pointed out one of them. No matter what the individuality of the people forming a crowd, how similar or dissimilar their modes of life, their occupation, their character or their intelligence, by the mere fact of merging into a crowd they form a sort of collective soul, by means of which they feel, act and think in a manner different from what each individual would, if left to himself. *There are ideas which appear in the collective mind of the crowd that do not appear in the minds of the individuals who form that crowd.*

"This explains how it was that among the most savage members of the French Convention were to be found inoffensive citizens who, under ordinary circumstances, would have been peaceful notaries or virtuous magistrates. The storm past, they resumed *their normal character* of quiet, law-abiding citizens. Napoleon found among them his most docile servants."—LEBON, "*The Crowd*," page 28.

"The chief point to remember is that a crowd's mind is not the average of the sum of the minds of its

individuals, but a combination followed by the creation of new characteristics."—Captain ORR.

This idea may well be explained by an illustration taken from chemistry:

Ammonia (a gas) and tincture of iodine (a liquid) can be combined with the result that a black solid, called nitrogen iodide, will be precipitated.

You may pound ammonia or water impregnated by it with a triphammer and get no results; you may similarly pound tincture of iodine with the same lack of result; but after you have combined the two and produced nitrogen iodide you must be careful that no one slams the door of the room if you desire to avoid an explosion.

Mix oxygen gas and hydrogen gas. Nothing happens. Add a spark to the mixture and there will be a loud report and a few drops of water left. The oxygen and hydrogen, as such, have disappeared. In any agglomeration of people the elements of a mob are present. Add the spark of suggestion and, with the suddenness of an explosion the mob is formed.

Several causes may be attributed to bring about the change from personal character to the character of the crowd, which latter is often in the utmost contrast to the former:

The first of these causes consists of the fact that in each individual of the crowd there arises, based on the mere fact of being in numbers, *a feeling of invincible power*, which at once nullifies the feeling of personal responsibility and which may further lead to a line of action never thought of were the individual alone or at his usual avocation, or which, if thought of, would have been curbed. The sooner an individual perceives that in the crowd he is unobserved and unknown and the more intense the

feeling of the crowd is, the quicker disappear the last remnants of the feeling of responsibility.

However, we must not lose sight of the fact that in each and every crowd there are numbers of individuals who call "Hurrah!" "Down with him!" "Crucify him!" and "Hosannah!" purely and simply because they are afraid that were they to keep still their neighbors in the crowd would think them cowards or possibly spies. Undoubtedly many proceed from words to deeds for that reason alone.

A crowd exercises a sort of hypnotic influence on its members. We have seen that "limitation of voluntary movement" is one of the necessary factors in producing the hypnotic state. "Nowhere else, except perhaps in solitary confinement, are *voluntary* movements of men so limited as they are in the crowd; and the larger the crowd is the greater is this limitation, the lower sinks the individual self."

—SIDIS, "*Psychology of Suggestion*," page 299.

Much will power is required to oppose the action of a crowd of which we form a part; only very few people possess that energy. Most people in a crowd feel that they are doing wrong, but do it because the crowd urges and drives. For these reasons acts are passed by legislatures and decisions reached by juries that would never have occurred had each of the individuals been obliged to reach the decision by himself. We all know that strong action comes from a single strong leader. As Napoleon said, "Councils of war never fight."

The second cause of crowd-sentiment and crowd-treatment lies in *imitation*. Even with animals imitation plays a great role, and that, not only with animals, but also with the lower orders—for instance, ants. Scientists have observed the interesting fact that, in a mixed colony of ants, the ants of one

species, by imitating the actions of another species, succeeded in catching bugs theretofore impossible to them. It is well known that the barking of a single dog immediately induces all dogs in the neighborhood to bark. The desire of imitation is so strong in monkeys as to be proverbial. The desire to imitate is not less strong in the human being than in animals. In company one yawns; the others at once follow suit. This yawning in conjunction is an instinctive involuntary imitation and it may be found in everything else. "Society is but a web of similarities, produced by imitation in all possible forms, such as customs, sympathy, usage, instruction, education, etc."—SIGHELE. Imitation develops its most attractive power just where there is a crowd. In a theater or in a public assembly, at least for the time being, the clapping of hands or the hissing of a few persons decides the success of a play or an author.

The undeniable fact of imitation, so closely interwoven with our daily life, is intimately connected with another general human characteristic, namely, the suggestibility or psychological power of contagion, which in many individuals amounts to hypnotism. Hypnotism and suggestion are merely new designations for appearances of the human soul, which had been practiced from time immemorial, but which up to recent times were screened by mystery and superstition and which have only gradually been stripped of their secrecy. *In suggestion we have to treat with implanting a certain thing in a man's brain.*

The same thing is true of hypnotism, only in this case there occurs a state of coma, in which the subject loses all knowledge of everything except what is suggested to him by the manipulator, and in hypnotism the subject has no power of reasoning.

In prior centuries, when the degree of general education was very low, when there was an almost total absence of legal or social order, psychological infection was far more frequent and far stronger, so that we may well speak of psychological infection epidemics, which, like the other epidemics, were not without their unfortunate consequences. For instance, we will mention the children's crusade in 1212, the main theatre of which was the southern part of France. At that time the minds of the adults were blunted by the experiences of four previous crusades and did not respond to the call for another crusade to redeem the Holy Land; but on the other hand the accounts of events in those crusades and of the wonders of the Orient filled the minds and phantasy of the children, and the flame was fed by incendiary sermons. In the year 1212 there assembled, under the leadership of a young shepherd boy, Etienne, about 30,000 boys and girls disguised as boys, of all classes, imbued with the idea that the Scriptures demanded of them, the mirrors, the redemption of the Holy Land. There was no holding them; all warnings were stifled by the call, "To God, to God!"

They refused to obey all parental restraint, and those that were locked up to prevent their joining the crusade slowly pined away.

To these unfortunate boys and girls, there attached themselves a lot of unscrupulous loafers and slave dealers. Of the seven ships on which the children took passage at Marseilles, ostensibly for transportation to the Holy Land, two foundered and the occupants of the other five were sold into slavery in Egypt. In similar manner ended the crusade which was made in two columns across Mts. Cenis and St. Gothard. A part of that crusade arrived at

Brindisi, where the bishop prevented further travel. The remainder took passage in ships at Genoa, and also ended in slavery. There are a number of psychological epidemics of mature persons known to history. The most prominent of these are the "dance epidemics" of the middle ages. In the year 1374 societies of men and women were formed, in Aachen first, later on in different places, who danced, hand in hand, for hours until completely exhausted. Many of the onlookers joined the dancers, increased their numbers and travelled around the country with them. Farmers left their plows, artisans their tools, women their kitchens, to join the wild dance and to spread the infection. This epidemic spread all over Europe. In Italy there was a curious offshoot of the epidemic which led to a belief that one bitten by a tarantula would die unless he kept dancing to a certain tune. This tune is called the "Tarantella," and the violent dance of the same name to this day remains in Italy, though no longer used as a cure for insect bites. (See "*Psychology of Suggestion*," page 326.)

A similar dance frenzy is shown by the St. Medardus epidemic, lasting a decade, from 1729 to 1739, which was based on the rumor that several lame men had been healed by visiting the grave of a visionary, François de Paris, in the cemetery of St. Medardus. Crowds at once congregated at that cemetery and dance orgies took place. Some hopped for hours, others whirled without stopping, while others flayed themselves with slats. There were also cases of voluntary crucifixion. In vain the authorities tried to call a halt by closing the cemetery—the infection spread all over Paris.

In a similar manner the Huguenot persecution in the mountains of southern France caused the in-

ception of the so-called society of "Trembleurs." In their prayer meetings one would suddenly fall down with cramps and visions, and commence to talk incoherently. This movement infected children and adults alike and inspired the Trembleurs to resistance against the King's officers. In one place the people opposed the King's troops entirely unarmed, believing that they, supported by the Holy Ghost, could breathe away the troops, while the women sang hymns. The result was a terrible slaughter.

As very similar epidemics with a religious background, may be cited the pilgrimages of the "Flagellantes" in the middle ages; the acts of the "Dokobers" in Canada, who seek the Savior in the middle of winter stripped stark naked; in the snake dances of our American Indians; and in the Voodoo dance of the African negroes. At Cassel, Germany, in 1907, there occurred every day during July, religious meetings, the main features of which were transports of ecstasy, illumination, or enlightenment, and the so-called "speaking with tongues." The crowds were drunk with religious ecstasy. With songs, with profession of religion, with confession of sins and speeches of repentance, there were mixed inarticulate sounds, wild murmurings, moanings and cries. There were seen many kinds of faces in agony, men sinking to the ground unconscious. Suddenly some one would start up and call out in an unknown tongue. This raised the excitement to the highest pitch. After a while the excitement became so intense that people began to get hurt. Then the police took a hand and suppressed the meetings.—Dr. GUDDEN. Nevertheless an article, written in 1910, declares that the movement is not yet dead, but is actually extending.

In these epidemics women seem more liable to contagion, on account of their more or less hysterical disposition, and women as a rule start the movement. Psychological epidemics in nunneries and other female institutions may be counted by the hundreds. In these epidemics the first adherents have been hysterical, weak-minded persons or persons of a low degree of intelligence. Still we know of psychological epidemics not originated by hysterics or religious things, but by the ordinary human weakness of seeking quick and easy gain of wealth and by curiosity. Here the originators know what they are about, and the first victims are uneducated or inexperienced persons.

The "South Sea Bubble," started in England in 1711, was a £10,000,000 company formed to corner the trade with South America. It never had any prospect of success, yet £100 shares rose to a value of £1,050—then the bubble burst, and England had a financial panic.

During the "tulip mania" in Holland in 1620, the value of one species rose as high as 13,000 florins—before the year was out the same species brought but 5 florins. The entire population had raised tulips, having sold farms, jewelry—all personal possessions—in order to raise and speculate in them.

The 1910 "rubber speculation" of England and her dependencies is the latest similar epidemic.

Our "bucket shops" are worked on the same psychological principle.

In large sensational trials we often see a number of witnesses who are so imbued with things suggested to them, by talks or reading the newspapers, that their own knowledge which they are called upon to testify to is colored or falsified, and they insert in their testimony happenings which have

not the slightest bearing on the case at bar, without being cognizant of the falsification. In the trial of one Berchold in Munich, not less than three women witnesses swore to having seen Berchold in a dress, which was afterwards proved to be mere imagination, the witnesses having seen the dress in a fashion paper.

Psychology of crowds sometimes takes a humorous side. Lieutenant Hobson, after blowing up the *Merrimac* in Santiago, lectured in the States. After one of these lectures a lady could not curb her feelings and *had* to kiss Hobson. Thereupon, according to the papers, all the ladies kissed him.

In Canada a few years ago there was a sudden furor because of a proposition for commercial reciprocity with the United States. It was widely declared that the United States was trying to annex Canada, and, in a burst of patriotic enthusiasm, the Canadians rejected the proposition. A few months afterward Mr. MacDonald, editor of the *Toronto Globe*, made the following statement about the matter in a lecture: "The people have returned to sober thinking and regret their action. The voters were swayed by the unintelligent action of the crowd. The annexation bugaboo was to blame for it all. It was just an evil rumor that got started and you could no more stop it than you could halt a tornado. People were swept away by it and acted rashly. They are now in a repentant mood."—Lecture on "*The Man and the Crowd*."

As to the "feeling" of a crowd, we may say that it is susceptible, impulsive and changeable. The murderers of the day of the "Terror" in 1792 never took the pocketbooks or jewelry of their victims, but turned them over to the authorities. In the same Terror days, a mob wanted to kill a prison guard

because he had refused water to his prisoners for twenty-four hours before their execution; and the same mob murdered the same prisoners so as to give every one of its members a chance to see what vengeance could be taken on the aristocrats.

As a rule, man, by merely belonging to an organized crowd, descends in the matter of civilization. By himself he is an educated individual; as a member of a crowd he has the fingermarks of the crowd. This is one of the main reasons why, what in strikes start out to be peaceable meetings to discuss grievances, sooner or later lead to mob violence. LeBon says of man as a member of a crowd: "He has the spontaneity, the abandon and also the enthusiasm and heroism of primitive peoples." This fact has been understood for hundreds of years. A Roman emperor said, "The senators are a courageous people—the senate is a beast."—Dr. GUDDEN.

A German writer has said, "One is a man, several are people, many are animals."—Dr. GUDDEN.

Schiller (in "*Gelehrte Gesellschaften*") says: "Anyone, taken as an individual, is tolerably sensible and reasonable. As a member of a crowd he at once becomes a blockhead."

To get down to the things that are of use to us, I will quote from LeBon the way in which a crowd can be led (page 141 and the following):

1. When it is wanted to stir up a crowd for a short space of time, to induce it to commit an act of any nature—to pillage a palace, or die in defense of a stronghold or a barricade, for instance—the crowd must be acted upon by rapid suggestions, among which example is the most powerful in effect. To attain this end, however, it is necessary that the crowd should have been previously prepared by certain circumstances, and above all, that he who wishes to work upon it should possess the quality, to be studied further on, to which I have given the name of prestige.

2. When, however, it is proposed to imbue the mind of a crowd with ideas and belief—with modern social theories for instance—the leaders have recourse to different expe-

dients. The principal of them are three in number and clearly defined—affirmation, repetition, and contagion. Their action is somewhat slow, but their effects, once produced, are very lasting.

Affirmation, pure and simple, kept free of all reasoning and all proof, is one of the surest means of making an idea enter the mind of crowds. The more concise an affirmation is, the more destitute of every appearance of proof and demonstration, the more weight it carries. The religious books and legal codes of all ages have always resorted to simple affirmation. Statesmen called upon to defend a political cause, commercial men pushing the sale of their products by means of advertising, are acquainted with the value of affirmation.

Affirmation, however, has no real influence, unless it be constantly repeated, and so far as possible in the same terms. The thing affirmed comes by repetition to fix itself in the mind in such a way that it is accepted in the end as a demonstrated truth. (You will note that what LeBon here calls “repetition” is the same thing that was in the “*Psychology of Suggestion*” spoken of as “frequency”—that is, the repetitions are not a monotonous use of the same words, with no let up, but a repetition of the same words at frequent intervals.) This power is due to the fact that the repeated statement is imbedded, in the long run, in those profound regions of our unconscious selves in which the motives of our actions are forged. At the end of a certain time we have forgotten who is the author of the repeated statement, and we finish by believing it. To this circumstance is due the astonishing power of advertisements.

When an affirmation has been repeated sufficiently, and there is unanimity in this repetition—as has occurred in the case of certain famous financial

undertakings rich enough to purchase powerful assistance—what is called a current of opinion is formed, and the powerful mechanism of contagion intervenes. Ideas, sentiments, emotions and beliefs possess in crowds a contagious power as intense as that of microbes. This phenomena is very natural, since it is observed even in animals when they are together in numbers. Should a horse in a stable take to biting his manger, the other horses will imitate him. A panic that has seized a few sheep will soon extend to the whole flock. In the case of man collected in a crowd, all emotions are very rapidly contagious, which explains the suddenness of panics. Brain disorders, like madness, are themselves contagious. The frequency of madness among doctors who are specialists for the mad is notorious.

For individuals to succumb to contagion, their simultaneous presence on the same spot is not indispensable. The action of contagion may be felt from a distance under the influence of events which give all minds an individual trend and the characteristics peculiar to crowds.

Man, like animals, has a natural tendency to imitation. Imitation is necessary for him, provided that the imitation is quite easy. It is this necessity that makes the influence of what is called fashion so powerful. Whether in a matter of opinions, ideas, literary manifestations, or merely of dress, how many persons are bold enough to run counter to the fashion? *It is by examples, not by arguments, that crowds are guided.*

“In the danger zone which suddenly surrounds and startles him in war, the soldier feels, in the first place, a desire to have someone assure him that the seemingly critical situation in which he finds himself is as it should be. His eye is naturally directed

upon his officers. If the officer's quiet glance reminds him that here, as in peace time, the first duty is obedience, and if he subsequently *sees* the officer advance fearlessly and vigorously, he will, as a rule, not worry about the why or wherefore."—BALCK.

At every period there exists a small number of individualities which react upon the remainder and are imitated by the unconscious mass. "Reason is incapable of transforming man's convictions."—*"Psychology of Peoples."*

Prestige

Great power is given to ideas propagated by affirmation, repetition, and contagion by the circumstances that they acquire in time that mysterious force known as prestige.

Whatever has been the ruling power in the world, whether it be ideas or man, has, in the main enforced its authority by means of that irresistible force known as "prestige." The term is one whose meaning is grasped by everybody, but the word is employed in ways too different for it to be easy to define it. Prestige may involve such sentiments as admiration or fear. Occasionally even these sentiments are its basis, but it can perfectly exist without them. The greatest measure of prestige is possessed by the dead—by Alexander, Cæsar, Mahomet, and Buddha, for example.

Prestige, in reality, is a sort of domination exercised on our mind by an individual, a work, or an idea. This domination entirely paralyzes our critical faculty, and fills our soul with astonishment and respect. The sentiment provoked is inexplicable, like all sentiments, but it would appear to be of the same kind as the fascination to which a magnetized

person is subjected. Prestige is the mainspring of all authority. Neither gods, kings or women have ever reigned without it. The various kinds of prestige may be grouped under two principal heads: acquired prestige, and personal prestige. Acquired prestige is that resulting from name, fortune and reputation. It may be independent of personal prestige. Personal prestige, on the contrary, is something peculiar to the individual; it may co-exist with reputation, glory and fortune, or be strengthened by them, but it is perfectly able to exist in their absence.

Acquired or artificial prestige is much the most common. The mere fact that a person occupies a certain position, possesses a certain fortune, or bears certain titles, endows him with prestige, however slight his own personal worth. An officer with his shoulderstraps or a judge in his robes always enjoys prestige. The most unbending socialist is always somewhat impressed by the sight of a prince or a marquis. The prestige of which I have spoken is exercised by persons; side by side with it may be placed that exercised by opinions, literary and artistic work, etc. Prestige of the latter sort is most often the result of accumulated repetitions. History, literary and artistic history especially, being nothing more than the repetition of identical judgments, which nobody endeavors to verify, everyone ends by repeating what he learned at school, till there comes to be names and things which nobody would venture to meddle with.

Now I come to "personal prestige." Its nature is very different from that of artificial or acquired prestige, with which we have just been concerned. It is a faculty independent of all titles, of all authority, and possessed by a small number of persons,

whom it enables to exercise a veritable magnetic fascination on those around them, although they are socially their equals, and lack all ordinary means of domination. They force the acceptance of their ideas and sentiments on those about, and they are obeyed, as is the tamer of wild animals, by the beast that could easily devour him.

The great leaders of crowds, such as Buddha, Jesus, Mahomet, Joan of Arc, and Napoleon, have possessed this form of prestige in a high degree, and to this endowment is more particularly due the position they attained. Gods, heroes and dogmas win their way in the world of their own inward strength. They are not to be discussed; they disappear, indeed, as soon as they are discussed. "The age of decadence of gods, institutions and dogmas has always begun as soon as they are exposed to discussion."—"*Psychology of Peoples.*"

The great personages I have named were in possession of their power of fascination long before they became illustrious, and never would have become so without it. An example in point is taken from Train, who cites contemporary memoirs as his authority, and gives an account of the arrival of Napoleon in Italy to take command of the army there. Remember that this was before Napoleon had won any victories.

"The generals of divisions, amongst them Augereau, a sort of swashbuckler, uncouth and heroic, proud of his height and his bravery, arrived at the staff quarters, very badly disposed toward the little upstart dispatched them from Paris. On the strength of the description of him that has been given them, Augereau is inclined to be insolent and insubordinate (to one who is) a favorite of Barras, a general who owes his rank to the events of Ven-

demiaire, who has won his grade by street fighting, who is looked upon as bearish because he is always thinking in solitude, of poor aspect, and with the reputation of a mathematician and a dreamer. They are introduced (into the ante-room), and Napoleon keeps them waiting. At last he appears, girt with his sword; he puts on his hat, explains the measures he has taken, gives his orders and dismisses them. Augereau has remained silent; it is only when he is outside that he regains his self-possession and is able to deliver himself of a stream of profanity. He admits with Messena that this little devil of a general has inspired him with awe; he cannot understand the ascendancy by which from the very first he has felt himself overwhelmed."

Later, in 1815, after Napoleon had acquired the prestige of all of his victories, General Vandamme said to another marshal as they went together up the steps of the palace: "That devil of a man exercises a fascination on me that I cannot explain, even to myself, and in such a degree that, though I fear neither God nor devil, yet when I am in his presence, I am ready to tremble like a child, and he could make me go through the eye of a needle, to throw myself in the fire."

His prestige outlived him and continued to grow. It was *his* prestige that made an emperor of his obscure nephew. How powerful his memory still is may be seen by the resurrection of Napoleonic history at the present day.

Illtreat men as you will, massacre them by the millions, be the cause of invasion upon invasion, all is permitted you if you possess prestige in a sufficient degree and the talent necessary to uphold it. (This part on psychology of crowds is taken, sometimes quoted, from LeBon's "*The Crowd*.")

Effect of Mass of the Population on Armies

History repeats itself: that is, a certain psychological phenomena in the nation or the world with its accompanying results, is followed in turn by another and another till at last the circle has been completed and the round begins again.

Isolated communities combine with adjoining ones for mutual protection and we have small states. Instead of suffering meekly, they combine to fight off their enemies. This begets the more prominent military virtues of courage and mutual confidence. Small communities more or less expect to protect themselves. Large ones rely on the state furnishing them protection. Team work is more to be expected between small communities and small states than among larger ones, and this characteristic extends to armies formed from their inhabitants. These small states combine with others till one is formed that, to its constituents, seems powerful enough to defy the world. Then, freed from menace from the outside, commercial pursuits become the sole enthusiasm of the individuals composing the state; luxury increases till men, voicing the cry, "I want what I want when I want it," lapse into effeminacy and selfishness and forget that the protection that the nation will be able to furnish them in their commercial pursuits is wholly dependent on a spirit among them of self sacrifice for the mutual good.

"Selfish and worldly activity, looking only toward the gratification of all desires of the individual, undermines the foundations of higher moral philosophy and the belief in ideals. Fools arrive at the vain conclusion that the life object of the individual is acquisition and enjoyment; that the purpose of the state is simply to facilitate the business affairs of its

citizens; that man is appointed by an all-wise Providence to buy cheaply and sell at a profit; they conclude that war, which interferes with man's activities, is the greatest evil. * * * *”—VON MOLTKE.

The individuals seek personal advantage against the interests of the state or even against the state itself. The state has become decadent and it begins to break up or have portions of its territory taken by others. When this state of luxury and fulfillment of individual desires has reached a certain degree, then will a severe war break up the state entirely or else it will break up the individual's pursuit of luxury as a first consideration and make him turn to the preservation of the state as the essential.

As it is not always the largest army that wins, so it is not always the apparently strongest state that wins. A long war is a test of endurance. A state composed of individuals who will suffer rather than yield may be exterminated, but it cannot be conquered. The soldiers of such a state are honored by the citizens, who, while they stay at home and produce the supplies necessary to the state, do not regard production and speculation as the sole honorable means of getting a livelihood, but, if able-bodied, they expect at some time to change places with the fighting men.

In modern times the highly-specialized soldiery of a century or two ago have given place to armed masses, proportionately greater in number, but not so highly trained. Whether these masses are volunteers or conscripts, they come from all classes of society and consist of the bulk of all the able-bodied citizens. They are in constant communication with the rest of the population. Newspapers and electrical means of communication also produce unity of thought between the part of the population that is in

the field and the part that is at home. Any psychological manifestation in one part will almost certainly appear in the other with about equal strength. If those at home get tired of the struggle, the army will show moral weakness. Panic in the one will produce panic in the other. Accustomed to more luxury and less hardship than in years gone by, neither part will hold out to extremity as in former times. This is the reason that modern wars are expected to be short. A big reverse and both army and populace lose their nerve. Neither is willing to pay the price of success.

While modern means of communication tend to reduce the time that a psychological epidemic will last, at the same time they allow one to spread more rapidly. A violent psychological epidemic that encourages to war will spread like wild-fire and will reach the whole nation at the same time.

The united front of Germany in 1870 or Japan in 1904 will be possible in any coming war. The side that has such intense feeling among all classes will be well-nigh invincible *while the thought wave lasts*.

One of the most likely results of these conditions is a sudden and resistless demand for war, everything carried to the top pitch of enthusiasm, that will force an unprepared government into war, followed after one severe defeat by an equally deep dejection that will culminate in an equally resistless demand for peace at any price. The people and the army are so bound up together that unless the military virtues of courage, mutual confidence and self-sacrifice for the good of the state are developed among the people they will not exist in the army, for in these days the populace is the army.

Psychology of Races

The psychologist distinguishes between peoples by their main mental, just as the naturalist distinguishes between species by a few main physical characteristics. The superior degree of will power, indomitable energy, great initiative, absolute self-control and strong sentiment of independence of the pure Anglo-Saxon distinguishes him from the other human being just as fins and gills distinguish the fish from other vertebrates. A fish may be large or small; chunky or slim; red, white, blue, black or drab; live in salt or fresh water; have eyes or be sightless; and prey on others or not, but if he has fins and gills he is a fish. All the non-essentials may be changed by environment, but the essential characteristics remain, being subject to change only by the slow transformations of evolution that require countless ages for their completion. So the main mental characteristics of a race are their inheritance from countless generations of dead ancestors and change very slowly or remain unchanged under the influence of education and environment.

"The influences of environment only become effective when heredity has caused their action to be continued in the same direction during a long period."—LEBON, *"Psychology of Peoples,"* page 9.

Applied to one Anglo-Saxon these main characteristics may be so hidden by changes in minor but more noticeable ones as to make one think the main ones have changed or disappeared. But applied to a thousand Anglo-Saxons anywhere, we will at once see that they are plainly noticeable. Applied to one Englishman or one——what we consider the typical Englishman or the typical —— may seem to be imperfectly represented, but applied to a thousand

of each we at once see the typical Englishman or typical —— in spite of all the minor changes that education or environment may have produced.

Burbank may so change a fruit or a vegetable that the eye cannot detect that it is a member of the family from which it springs, but the one or two main characteristics of that family will remain unchanged, and the scientist will by these characteristics still unhesitatingly place it in the family from which it came.

So with us "we are the children at once of our parents and our race."—"*Psychology of Peoples*," page 9.

One of the strongest forces that tends to produce a uniform trend of mind in any fairly homogeneous people is religious belief. We can plainly see the different mental attitudes of the Christian, Moham-medan and Buddhist.

So great is the mental difference between different peoples that they can never fully understand one another. You think with not only a different brain but *a different kind of brain* than does your Filipino servant. The impression that a series of words or a series of events makes on your brain differs from that made on his brain by the same words or events. This is so marked that it is impossible to accurately translate any idea from one language to another. For example the dictionaries give *pan* (Spanish) and bread (English) as equivalent. To you the word "bread" brings to mind a mental picture of a large loaf, made without much if any lard and with a small proportion of crust and much soft interior, but to the Spaniard the word "*pan*" brings up a mental picture of a small hard loaf, all crust and made with much lard.

In a similar manner *events* make different impressions on different *kinds* of brains.

Education and environment may quickly change the more noticeable expressions of a brain, but they do not change its kind.

In ten years a fairly intelligent Japanese can acquire all the education and exterior social graces of an Englishman. To transform the Japanese so that a series of events would give him the same mental picture that they give to an Englishman, a thousand years would not be sufficient.

We think with much the same kind of a brain as does the Englishman. Given a particular set of circumstances, we can predict within one or two alternative lines of action just what an Englishman will do; but what a Japanese, a Chinaman, a negro or a Filipino will do under these same circumstances, *or why*, is entirely beyond our comprehension. By association with one of these peoples we may come to know more nearly what they will do, *but never why*.

When peoples of different mental characteristics mix and intermarry, three conditions may arise:

First.—When the higher civilization constitutes but a small proportion it at once reverts to the lower.

Second.—When the higher civilization is a large proportion of the whole the lower dies out and ceases to exist. A higher civilization can swallow up and entirely eradicate a larger proportion of the other than can a lower. In neither case do the two amalgamate and produce an average of the two.

Third.—When two or more civilizations mix all in large proportion, still amalgamation does not ensue. On the contrary, the different main mental characteristics mutually exterminate each other and a new civilization is formed. The old is gone and a new grows up from virgin soil.

After the mixing is complete, generations will be necessary before a new civilization with *fixed mental characteristics* is fully established.

In the United States at the present day we have the mixture that will soon eradicate the mental characteristics of the constituent parts, and if left to ourselves we will eventually produce a race and a civilization of our own, different in mental attitude from that of any of the constituent parts or an average of them.

As a practical measure, however, we have today to deal with the mixture of many parts and with different kinds of peoples.

The Anglo-Saxon and allied stock we had before the Civil War. We know them and know what they will do in war. Now for military purposes let us consider the rest.

First, we have taken in the negro. There are something like 11,000,000 of him. By association we know something of what he will do, but as we think with a different kind of brain we do not perceive the why of his acts. In other words, we will not be able to get the best out of him as a soldier because we do not understand how to touch the mainsprings of his character.

Another large proportion of our population is made up from those who, though they have no particular home on the earth from which to inherit their ideas, have peculiarities of physique and of mind that make them foreign in tastes and mental attitudes to all other classes of our population. In a cause that appealed to their peculiar type of mind and led by officers who had some insight into the ideas that heredity has placed in their heads, they may be used to advantage. Unless we can touch the latent mainsprings of their character they will be out of accord with the other elements of our army and may be counted of comparatively little use. A

machine will not work smoothly the different parts of which are put in action by discordant impulses.

Another large proportion of our citizens come from southern Europe. Their number is increasing each year. These men have the mental characteristics that Napoleon's soldiers had. One of the principal of these is the instinctive demand for a leader more than for a cause. The cause gets the vocal allegiance, but they follow a leader, not an idea.

The French demanded liberty and equality, and, though they made the Revolution to get it, yet there was even less freedom under the Republic than there had been under the kings. The names of all the old institutions were changed, but all the institutions themselves remained, with their characteristics essentially unchanged. The turmoil continued till another leader, Napoleon, arose. We laugh at the harangues that Napoleon made use of in order to raise his subjects to enthusiasm in his service, but we will now have in our armies a considerable proportion of men with just the mental characteristics of those same subjects. We do not understand their brains. From the same events or words we do not get the same mental picture that they do.

The Anglo-Saxon fights stubbornly in defeat. The Latin makes a more enthusiastic and dangerous attack, but sinks into deepest dejection and hopelessness under a reverse. ✓

A big war will now make it necessary to combine all these unfusible elements into one whole.

One of the startling disclosures of the 1910 census is that only 53.8 per cent. of our population are whites of native parentage. In the New England states less than 40 per cent. are of native stock. All of the northern states, except Missouri and In-

diana, have more than one fourth of their population of foreign extraction. The percentage of *foreign stock* has increased 40 per cent. since 1870 and that of *foreign born* has increased 50 per cent. since 1850.

The organization, the methods, the leaders that suit one part will be unsuitable to the others.

In the Civil War the population of each of the contending parties was fairly homogeneous in race and character. Though neither side well understood the mental characteristics of the other, each well understood itself. Each had its physical strength pushed into action by a strong fixed idea. Today it is impossible to think of an idea which would make a strong mental and psychological impression on the whole mass of the population. It is therefore improbable that the Civil War can furnish any reliable information as to what we may expect our people to accomplish today.

Part II

PANIC IN WAR¹

"In all battles the eyes are vanquished first."—TACITUS.

WHEN in prehistoric times, the great god "Pan" still had his existence in the mind of a people rich in imagination and love of nature, a loving couple hidden in the forest or a wanderer overtaken by darkness and inclement weather believed they heard in the rustling of the leaves or in the other noises of the forest the steps of the angry god—when they in fright and fear ran out of the forest to the protection of the nearby huts, they experienced what the Greeks at that period designated as "fright of Pan."

From this we get the derivation of the word "panic," the meaning of which, after centuries have elapsed, is still applicable to paroxysms of fright. However, the word "panic" has a somewhat different meaning today. By it we understand today the sudden, precipitate, unreasoning fright taking possession of a crowd which, unlike fear or fright originating in the depth of the individual human mind, *cannot be combated or curbed by reasoning.*

Such a fright, which may have its origin possibly in an utterly unimportant happening in a crowd, suddenly calls into existence the crudest features of self-preservation, features which existed from time

¹Prepared mostly from an article in *Revue d'Infanterie* of November, 1907, translated in Military Information Document No. 12149, of School Library File, and an article by Colonel Emil Pfluelf on the same subject, translated from the German.

immemorial in the human race, but which we overcome by advancing civilization; such a fright entirely fills the human mind by driving into the background every other feeling, governs the movements of and drives the crowd, causing each individual of the crowd to lose his power of judgment, reasoning and self-command, and leads it, incapable of resistance, into purely brute actions. This is what LeBon speaks of as a "psychological crowd." Once the same general incentive has taken possession of the minds of the individuals and the psychological crowd has become organized, it forms a "collective soul" which has not the psychic attributes of the separate individuals, nor an average of these individual attributes, but which takes on an entirely new personality—the personality of the crowd.

In the psychological crowd, the individual is no longer himself; he feels and acts, but in the sense of the "collective soul" and shares its peculiarities and desires.

The general fingermarks of the psychological crowds are:

The extinction of personal feeling or consciousness—the knowledge of being one of many in the crowd.

The absence of any feeling of responsibility.

Susceptibility to suggestion.

An exaggerated independence.

Subjection to being easily led.

A certain willingness to do things, without regard to right, justice or consequences.

That under such conditions all bounds set by education, culture and reason are driven into the background—that the "human beast" comes to the surface—is self-evident.

Now, a body of troops, under certain conditions, is a psychological crowd. In a state of rest, during a lull of the battle, or while on the march, out of

contact with the enemy, it may not be a psychological crowd, but in times of stress it will always be such.

The more heterogeneous the elements that compose an army, the more susceptible it will be to the wild, unreasoning acts of the psychological crowd—the more subject will it be to panic.

On the other hand, troops that are composed of individuals who are all of the same race, same class of society, same language, same political and religious faith, and who are uniformly educated and instructed till they have confidence in their officers, their comrades and themselves, will be little subject to panic; but even these will sometimes have panics among them.

“The primary condition of success in the soldier’s capacity to withstand for a longer period than his adversary, not only material casualties, but also severe attacks on his morale.

“Now, a mass of troops is, like all crowds, more easily swayed, more easily nervous and impressionable than a single individual. It is as easily infected with panic as with heroism.

“In the psychology of battle the efforts of commanders must ever be directed towards preventing panic and towards raising each individual’s spirit.”

The study of cases of panic which have occurred at various times and in various armies show that if, in combat, the determining cause of the evil has always been the same, namely, a powerful suggestion in the form of a cry or gesture, yet the real cause, concealed behind the apparent one, is an unexpected modification in the physical or moral conditions affecting the troops—a modification which resulted in diminishing or destroying their resistance to suggestion.

In campaign, this resisting force is subject to incessant fluctuations according to circumstances, the condition of the troops, and their sentiments. We shall see that these sentiments, even the best of them, are far from being able to balance this devastating and blind force of panic.

Unfortunately the study of panics is rendered very difficult by the scarcity of records and by the lack of historical certainty in the official accounts submitted. There are perhaps no matters of history where the truth, voluntarily or involuntarily, has been more perverted. The winner of a fight exalts the heroism of his troops, but does not hint at there having been a panic among the enemy. The facts are sometimes voluntarily suppressed by military commanders from considerations of humanity, because they wish to conceal, as a blemish, the weakness of the troops under their orders, and because they are unwilling to publicly dishonor men whose worth, courage and even heroism they knew. (The German official accounts of their own wars are known to have hidden all such facts as related to themselves through motives of public policy.) The real facts are not revealed sometimes because of the involuntary action of commanders, who are themselves actors in the drama and have been subjected to the perturbing influence, the first effect of which is the loss of the faculty of observation.

Therefore, if one wishes to extract from the past a few particulars of the truth on such a subject, he should preferably consult the memoirs of subordinates and soldiers, who relate simply what they have seen or have experienced, without care of publicity. Even these must be subjected to strong historical criticism before being accepted.

From no source do we find any attempt to explain the characteristics of the phenomena of panic. At times experience has shown to commanders palliatives of a moral kind, but generally the one remedy understood and made use of was sanguinary repression. In all ages military commanders have dreaded panic as a scourge. The tremendous and long-continued strain of the modern battle will tend to such terrible nervous and physical strain as to put troops in a psychological state that is highly conducive to panics. At the same time it will be less often possible to turn to account the sudden waves of enthusiasm, analogous to, but, of course, the direct opposite of panic, which lead to the most conspicuous gallantry. The modern fight calls for powers of nervous, physical and moral endurance which come only from sterling moral character, backed up by sturdy physical condition. Dash will be called for sometimes, but endurance will be the key to success.

In the ancient battles, as DuPiq has shown, "panic was the inevitable issue, and he was victor who was able to resist it the longer." The ancient commanders attempted to conquer by instilling in the soldier the dominating fear of their own commanders. It was necessary, according to a Greek commander, "that the soldier fear his captain more than the enemy." In Rome, where an admirable *esprit de corps* existed, tactics were adapted to the moral character of the combatant; but in addition, they took extreme measures against fugitives. Every soldier who fled from the combat perished under the baton; all troops guilty of cowardice were decimated.

Indeed it is a fact that in war success often depends less upon the skill of the combinations than upon the stubbornness of the combatants. Still, it

is necessary that this stubbornness be general, for panic of a few men can, in an instant, destroy the tenacity of the greatest number.

We shall not study the psychology of the combatant in rational and methodical flight, which is only combat in retreat; for there is a great difference between flight—even disorderly flight—and panic.

Panic derives its birth and is developed in manners always indetical, which can be described in a few words. Troops in the peculiar crowded state brought into being by the combat, in anticipation of the combat or later as the result of the combat, are broken up in consequence of a cry of distress that is repeated by a few men who accompany it with gestures of terror and run away in one or several directions, habitually away from the enemy, blind with fear and deaf to every voice.

In this condition there are for these troops no longer any comrades, commanders, or colors; and, in the fields strewn with abandoned arms, it is flight, howling and disgraceful, where each tries to procure his own safety—and where all find defeat, death, and shame.

Panic is not confined to man. Animals all have it. The nervous and excitable horse is even more given to causeless panic than is man. Panic in mounted troops spreads more rapidly and is even less possible to check than in dismounted troops. Panics are frequent among the horses by themselves. Only a few years ago there was a disastrous and causeless panic among the animals at the British maneuvers.

Such was the panic that seized the Prussians on the evening of Jena. At the cry, "Save himself who can!" a sudden panic took possession of every soul.

They took to running confusedly on the roads, seeing enemy everywhere and taking fugitives, themselves full of fright, for victorious Frenchmen. To increase their misfortune they encountered that enormous quantity of baggage which the Prussian army always brought along with it. The cavalry turned out of roads and took to the fields by whole squadrons. The infantry broke ranks, looting and overturning the baggage.

After the first Bull Run the beaten troops fled in utter rout by the way they had come. They ran back by Sudley Springs, though they could have saved many miles by cutting straight across. This wild scramble kept up all night till they reached Washington. Yet no one pursued. The drawn faces and utter exhaustion of the stragglers as they arrived in Washington have often been described. The physical exertion they had undergone would account for their personal appearance, but the descriptions of all other panics contain the same notice of the drawn faces and utter exhaustion of those who have been in a panic. In order to arrive at a conception of panic, one must consider certain phenomena still little understood. These are *illusion*, *hallucination*, *suggestion*, and *contagion*.

Panic is indeed a sort of collective hallucination. Illusion and hallucination are both at first individual and are manifested in the subjects who are the most nervous, the most impressionable, or the most depressed physically. By their gestures and cries they offer suggestions to their immediate neighbors. Then contagion does its work with frightful rapidity.

Let us examine a few details of these different phenomena.

"Illusion is an error which simulates actual knowledge, evident in itself, or intuitive in the form

of a perception of the senses.”—SULLY. It has, therefore, for a point of departure a real impression. For example, a sentinel sees a bush and hears it rustle in the breeze. He really sees *something*, but believes that he sees an enemy sneaking up to kill him.

After Te-lu-ssu the defeated Russians were halted about twelve miles from the battlefield. There they remained the following day, but in consequence of rumors, it was decided to fall back still further that night. In the meantime the Japanese cavalry had made no pursuit—possibly due to the fact that at Te-lu-ssu they had been worsted by the Cossacks in the only mounted engagement of the war.

Of this night retreat, more than 24 hours after the battle, the British *Official Account* says: “As night fell, the troops, shaken by the conflict of the previous day, saw danger where none existed, and, seized with panic, fired upon each other. Indeed, to such an extent was the habitual stolidity of the men and their commanders overcome that some shots fired by a Cossack detachment about 3:30 a. m. caused the First Siberian Rifle Division to deploy and remain halted in position till daylight.”

A similar illusion was that which led the Russian fleet to see Japanese torpedo craft in what was really English fishing vessels peacefully at work off their own coast.

In hallucination, on the contrary, there is no real impression. A person who pictures to himself the face of a friend or of an enemy so vividly that he believes he sees him for a few moments is a victim of hallucination.

Under the influence of the nervous over-excitement of the battlefield such phenomena are frequent.

Everyone who has gone to war has verified it. "It seems," says Montluc, "that for each one of your enemies you see ten before your eyes, like a drunkard who sees a thousand candles all at once."

The commanders, themselves, being more imaginative and having their attention constantly under strain, are frequently the victims of illusion and hallucination. That is what a French general wished to say in 1870, when he said to his chiefs of information: "You have Prussians in your eyes." No doubt most of you can recall similar results to secret service work in our own army.

A curious example of hallucination in the chief is that of the brigade commander Felix. During the campaign of 1793, while posted in an advance position, he abandoned his detachment before the first shot was fired and fled whip and spur to headquarters (thirteen miles) where he asserted that his troops had been annihilated by the enemy.

Now it cannot be admitted that this officer fled through treason, since he had already distinguished himself in several combats. Here is the official report that was made of the matter to the minister of war:

"I have the honor to report to you that in the affair of the 13th, Brigade Commander Felix who occupied with the 1st Battalion of the 44th Regiment and an independent company the post of Neukirch, quitted it at the instant his troops were attacked and fled to headquarters, distant from his post five leagues, to tell me, all out of breath, that his battalion was cut to pieces or taken prisoners as well as the colors and guns and that a very small part had escaped into the woods. As this report did not have the air of truth, I asked this commander to compose and collect himself a little. Seeing that he still persisted in this re-

port, I took him to General Hedouville, Chief of Staff, to whom he confirmed again what he had told me. As a commander should not quit his post, I had him arrested and made report to the representatives of the people, who, a few hours afterwards, proceeded to the advance guard, where they learned with the greatest astonishment that every individual of his battalion had conducted himself like a hero under the leadership of their battalion commander."

Personally, the worst scared man I ever saw was a trooper who came back to camp about midnight and reported that his outpost had been attacked and wiped out by bolomen. No shots had been fired, and the officers were skeptical; still the man stuck to his story and was full of details of the catastrophe. What had really happened was that his mate on a double sentinel had stepped through a hole into a covered well and had made considerable fuss about it.

In an army a few individuals become thus victims of illusion or hallucination, and so are created the first germs of panic.

Obsessed by the image he believes he sees and lost to all notion of the outside world, the victim immediately exerts all his energy and all his power to obey the feeling of attraction or repulsion which the image imperiously imposes upon him. When seized by fear, his features become convulsed; he conceals his frenzied eyes with his arms to escape the horrible vision, and his mouth utters cries of fright. It is then that is introduced the phenomena of *suggestion*.

In order to understand the great power of this phenomenon, it is necessary to remember that a person may be put to sleep artificially and placed under complete control of another person, who compels the

former to obey all his suggestions and to perform deeds diametrically opposed to the subject's will.

“The most careful observations seem to prove that an individual merged for some time in a crowd in action finds himself—either in consequence of the magnetic influence given out by the crowd, or from some other cause of which we are ignorant—in a special state, which much resembles the state of fascination in which the hypnotized individual finds himself in the hands of the hypnotizer. The activity of the brain being paralyzed in the case of the hypnotized subject, the latter becomes the slave of all the unconscious activities caused by the reflex actions of the spinal cord, which the hypnotizer directs at will. The conscious personality has vanished; will and discernment are lost.”—LEBON, pages 34, 35. As we saw in the last lecture, the man on the firing line is in a state almost hypnotic in character, which renders him particularly subject to suggestion.

This phenomena of suggestion is well understood by military commanders, who know that, conformably to suggestion, soldiers will dash to the assault of a position with an irresistible impetuosity. The battle of Glisnelle presents a very extraordinary case of suggestion to troops.

“At the instant the order to retreat was given, General Gouvion perceived that instead of executing a retrograde movement, one battalion was advancing toward the enemy. He sent an aide-de-camp to enjoin it to return to the rear. The battalion refused to obey and continued to march forward. Gouvion, though admiring this exalted courage, then went forward himself and gave in an animated voice the order to retire. Scarcely had he begun to speak when a bullet struck him to earth. The soldiers of

this brave and obstinate battalion, instead of being crushed by this depressing death, were rather animated by the thought of avenging the loss of their general. They charged the Austrian battalions furiously. The first ones that they met were overturned, but soon they were surrounded on all sides, and, refusing to ask quarter, they perished to a man.”—JEAN LOMBARD, “*Volunteers of '92.*”

Unfortunately, suggestion does not always come from chiefs and is not always directed in the channel of duty and the safety of the army. Nor is it of less effect on this account; for, under its influence—and this is a point to be noticed—the soldier will abandon himself to shameful flight as well as to heroic assault. “The specter of panic stalks by the side of enthusiasm.”—BALCK.

In the crisis of the fight, the action of suggestion would not be so formidable if it could be localized and if it could be made to influence the minds of only the nearest neighbors.

But this not the case by any means, for contagion soon intervenes to disseminate the influence with incredible rapidity. “It is a phenomenon, often verified but unexplained, that every act, every sentiment in a crowd is contagious, and contagious to a point where the individual very easily sacrifices his personal interests for those of the collective body.”—LEBON. In an instant contagion carries fright to the bravest hearts, destroys the faculty of reasoning, and brings all of the intellects to the same level. The troops, by putting together into a common being what scarcely exists in each one to the same degree—that is, instinct—form a morally compact mass. In this mass, every sentiment born of civilization and intellectual culture is immediately

banished, and there emanates from it no longer anything but violence, ferocity and fear.

Thus the reading of the accounts of dramatic panics depicts only the image of a furious, fleeing, unconscious beast, seeking an instinctive shelter from the storm in ravines, woods, villages and mountains, which nature and the industry of man have prepared for the refuge of beings threatened with an imminent danger. With men in a panic, they are seen, after being well started, to herd together in somber silence, their faces reflecting their sinister fright. After the first start, they press on in silence, their eyes cast obstinately on the ground. Crushed by fatigue, they throw away knapsacks, hats, rifles, canteens—anything that impedes their progress. The description of all panics dwell more or less on the utter exhaustion of those who are participants therein. It appears to be a result, not of the physical exertion they have undergone, but of the nervous excitement and nervous strain.

“During the night of Saint Privat,” says General Castex, “we were proceeding towards the Ban-Saint-Martin in the midst of retreating infantry columns when we were almost deafened by a strange noise like that of an earth tremor, which seemed produced far in our rear, but which was increasing in loudness.

“Mixed with the clanking of arms, there were vociferations, cries, exclamations—a sort of infernal clamor. We were enveloped in a cloud of dust so thick that it obscured the sky and we had difficulty distinguishing cavalymen riding at a frantic gallop. Pressed together in a human mass, they seemed to flee before a terrifying specter as if impelled by an avalanche. It was a panic. How could it have been produced after the guns had ceased firing and

after the battle had been completed? How many valiant commanders were unable, not only to subdue it, but even to escape themselves from the mad ride?"

Here we see the panic before the final stage. Here are cries, inarticulate, but still human sounds. When a panic has continued for a longer time, the mass settles into somber silence, utter weariness and hurrying along in profound dejection, and is even less possible to control than when the first rush started.

We have seen that troops seized with panic had received through suggestion an extremely vivid impression and that hallucination presents to the eyes of each soldier a frightful danger.

Immediately, by a psychological law, the organs involuntarily react to avoid the danger and with all the more violence because the exciting influence has been most vivid. Then ensue disordered actions causing the man, in order to rid himself of every obstacle to his flight, to precipitate himself upon his neighbors with a frenzy that extends sometimes even to murder, and to hurl himself upon obstacles which he can neither clear nor overturn.

"The psychological expressions of fear are quickened heartbeats, hurried breathing, pallor, goose-flesh, dryness of the mouth, dilation of the nostrils, protrusion of the eyeballs, contraction of the bladder and intestines, perspiration, trembling, and other disturbances."—*The Psychology and Neurology of Fear*," page 23.

It has been proved, moreover, that strong emotions lead to serious perturbations of the respiratory systems in consequence of a disturbance of the nervous centers, the mechanism of which is not known.

"Moral impressions," says Dr. Lagrange, "as

well as physical sensation can diminish the respiratory aptitude only by reflex effects that happen to disturb the regular play of the pulmonary bellows. Under the influence of fear, the movements of the chest are sometimes seen to be accelerated immeasurably, sometimes to succeed one another at unequal intervals, and sometimes to be retarded and momentarily suspended. The defect of coördination and the disorder of respiratory movements very much resembles that incoherent movement of the lips which prevents an excited man from clearly articulating his words." Thus are explained the cries, the sobs, the shrieks uttered by the fugitives who involuntarily favor the contagion of panic.

Respiratory disorders likewise cause an extremely rapid fatigue, even at the time when the troops have just begun movement, and the details of this fatigue fill the accounts of panic. We see soldiers strew unconsciously over fields—by a movement, so to speak, reflexive—helmets, muskets, knapsacks, cartridges, precious articles, everything hindering them—everything adding to their fatigue or bowing them down. This thing is certain and is seen in every panic.

It can be said, indeed, that from the instant when cries of fright become general, when all feelings and all thoughts are directed toward the one end—flight—troops have acquired a physiognomy entirely new, and there are manifested in them characteristics peculiar to this state.

This annihilation of the intellectual faculties shows of what little importance, from the special viewpoint of panic, is the coefficient of intelligence, sometimes spoken of as one of the great advantages of our American army. Remembering that the army that can longest resist panic is the victor and

that crowds, and especially crowds under strong excitement, are the same, no matter what the grade of intelligence of the individuals composing the crowd, it seems that, except in the way of leaders, intelligence is of little value in war. One might go further and say that in the fight itself—right in the scrimmage—that bullheaded determination or fanatical enthusiasm is far more likely to exercise an influence than intelligence, even among the officers.

In combat, qualities of character alone permit resistance to the wild current of the flood. If they are defective, panic becomes sovereign and everyone is swept away, chiefs and soldiers, in irresistible ruin. Troops seized by panic are so incapable of the least reason that even the sense of direction often leaves them; and it is not rare to see soldiers dash into the ranks of the enemy with such gestures of terror that fear overcomes the adversary also. Such was the case in the combat of Limbach, where the surrounded French delivered so opportunely two salvos of artillery against the Austrians advancing behind them, that the latter were put into utter rout and fled in all directions. "Many of them," says an eye-witness, "came into our ranks and the *mêlée* became general. On both sides the astonished soldiers halted, looked at one another, and, much perturbed, disbanded, abandoning the battlefield."—*Journal of a One Year Volunteer*. Although the enemy may be in a situation as desperate as that of the fugitive, it seems to the latter that the former possesses a great power—omnipotence. However, as intelligence has disappeared, no one perceives this fact. Troops overcome by fright are totally deprived of the critical sense, and so one of the consequences of the loss of reason is the creation of an extraordinary credulity. It is thus that a rumor,

known at once to be false if one stopped to think, will frequently turn a retreat into a demoralized rout.

In panic the sentiments of each one are equally modified so that those of individuals are unrecognizable. Generally speaking, the traits of the primitive man appear with great power. These are violence, egotism, ferocity and fear. On the other hand, the sentiments which have been acquired or developed through civilization, such as devotion, pity, military honor, etc., are entirely annihilated.

The absence of responsibility and a sense that there is no authority with power to punish contribute not a little to the unleashing of the primitive sentiments, with an exaggeration of which only collections of men can offer examples.

It is not the courage of the individual which is changed into the most imbecile cowardice, but this change takes place in the mind of the crowd. The individual minds have ceased to exist—the crowd has a single mind of its own, separate and distinct from the mind of the individuals composing it. Troops composed of men of proved individual courage will not be inaccessible to collective fear. The gladiators of Sparticus, in revolt, were put into full rout by an army of soldiers of little individual courage, but of better organization and leadership. MacDonald, with a handful of men in the campaign of 1799, defeated the Neapolitans. Thiebault says of this: "Armed and banded into troops of fanatics, these Neapolitans, who had taught us to dread them as men, were terrible, but from the moment they formed regular platoons, they became nobodies."

It would be as unjust to accuse the Neapolitans of cowardice and to brand them with the seal of infamy as it would the men whom the storm of panic had swept away. Everything depends upon sug-

gestion, and the same troops may deliver themselves within a few days, often within a few hours, to the worst routs or of the most magnificent act of heroism.

We thus see that physical depression, loss of the faculty of reasoning, the unleashing of primitive instincts and sentiments, are the essential characteristics of men seized by the crisis of fear. They become easy prey to their adversaries, who need only to have enough physical power to strike in order to slaughter them.

Pursuit under these conditions becomes a sort of cruel play—a chase where the pursuer has no longer anything to dread for himself excepting fatigue. As DuPicq has shown us, in the ancient battles the winner lost a few hundred, the loser fifty or a hundred thousand. Here the losses must have been about equal till the break. Then one side, overcome by panic, fled, and the victors without further fighting had but to follow along and kill the helpless, panic-stricken mob.

Factors in Panics

In order that troops may be influenced in an irresistible manner by the suggestion of fear, we have said that it was necessary that they be placed previously in a condition favorable to the contagion of suggestion. This state of predisposition is brought about by two series of factors:

1. Immediate factors, events almost always unforeseen, which often pave the way for a panic in a few minutes, without in themselves causing it.

2. Indirect factors, those which, operating for a time more or less extended, have created a soil favorable to its development.

Among the first may be mentioned treachery, the absence or scarcity of arms, the absence of the commander, surprise, and expectant waiting. Among the second, race, physical depression, and moral depression.

At Custozza three troops (platoons) Austrian Uhlans, with a total strength of 105, attacked mounted against the head of the column of Cerales' Division in the defile at Monte Cricoi and routed 6,000 men. The squadron commander gave as his idea of the reason for his success that the Italians had been marching from 3:00 a.m. till 10:30 a.m. without a halt and then the head of their column was surprised.

The definition of treachery we all know. When it occurs with troops while waging hostile battle, even if they have already accomplished prodigies of valor—even if they are in full victory, and even if treason be the act of only a few isolated individuals—yet demoralization becomes almost inevitable.

It is a fact that the reasonings of collectives operate only by the association of images and by generalizations, often absurd.

The image of treachery is first erected before the frightened soldier who sees himself surrounded to his ruin by maddened traitors. Let the cry of treason be raised and the deed is done; panic is let loose.

On April 20, 1794, the garrison of Cambrai and Bouchain, after having followed up from Cateau and from Villers-en-Cauchiers, the Austrians, whom the cavalry still pursued, were suddenly seized by panic in consequence of the defection of a few hussars. They came back to Cambrai and Bouchain in abominable disorder, demanding the death of the traitors, seven of whom were afterward executed.

The lack of arms gives the soldier the impression of being delivered over to the enemy with feet and hands bound. We have a curious example of this in the combat of Saint-Hermagor, where Major Roulier was abandoned by all his men because the muskets were, on account of rain, no longer able to be fired. The enemy was, of course, in exactly the same fix. An individual would have known this at once, but the crowd, with the usual lack of reasoning qualities inherent in crowds, and the extreme egotism of crowds, thought only of itself and its own plight.

The absence of chiefs disarranges the bearings of troops, accustomed to act only upon orders and having for direction only the will and judgment of the chief. The latter appears in the eyes of all as the one person who understands the military task and is capable of directing affairs.

Action by surprise is recommended by all tacticians; for its power to demoralize the enemy is a considerable force in the hands of the assailant. It suppresses, indeed, in the one who encounters it, not only the possibility of maneuvering, but also that of measuring the extent of the danger threatening him. At the same time it removes the two factors necessary to all reasoning—time and calmness. Peril then appears all the more frightful, because it is sudden and apparently inevitable. Before having suffered even the first ill, troops are morally turned foot-loose and are ripe for panic, which is propagated by contagion in a very few minutes.

The fight at the Carigan bridge, related by Montluc, illustrates well the character of combat by surprise, and of the consequent panic. It was a question of seizing the bridge, defended by the Imperialists, and of destroying it. Montluc had seized

the bridge on a moonlight night and was at work destroying it when about 200 of the enemy at the head of a column appeared and opened fire. About the time of the arrival of the enemy the moon had been hid by a cloud and a mist arose. The French were surprised, started to form, and then suddenly broke. About the same time reënforcements arrived from the other side and opened fire indiscriminately on both parties to the original fight at the bridge. Montluc loudly cried his own name and "France, France!" He was able to rally about thirty young gentlemen who had been attached to his force. With these he charged the enemy's original 200, who were at the other end of the bridge. They broke back, threw their supports into confusion and they also ran. In a few minutes Montluc and thirty men held the bridge while all the other troops on both sides were rushing to the rear in utter panic. Both forces were completely routed. Here we see circumstances especially favorable to panic. Both forces were of mixed nationalities. On one side French and Italians, on the other Spanish, German and Swiss. Besides, they were engaged in night operations. A student of the psychology of war might have predicted just this result before the fight began. None of the French side came back during the night. On the Spanish side the disorderly flight was such that the commander of the town from which they had started reports that, after reaching the town on the return, more than 400 jumped over the fortification and continued the flight beyond.

Expectancy is the disposition of our minds to anticipate coming events, a disposition all the more active when the mental images associated with these events have an emotional character. "To expect a

thing is to give an impulse to the active instincts, including the faculty of attention. It is to find oneself on the *qui vive* and to begin a general rehearsal of the acts which the real occurrence of the event might create.”—JAMES SULLY.

The phenomena of anxious expectancy explains the numerous shots that sentinels in the field fire during the night at bushes and trees, which they take for the enemy's patrols. It explains also why reserve battalions during battle, having before their minds' eyes the spectacle, less the animation of the struggle, retreat without even waiting for their entrance into the fighting line.

The above are immediate factors of panic. They often influence troops independently, but often they are grafted on the indirect factors, which favor their action, and therefore take a preponderating part in the origin of panic.

From this point of view, that unchangeable soil from which spring all our sentiments—race—has a capital importance. It is upon it that depend in great part the impulsiveness of troops, their variability and their susceptibility to suggestion. The Latin races are more peculiarly feminine, and if they are susceptible to great enthusiasm and to limitless devotion, they are also liable to the greatest weaknesses and to the gravest disorders. There have been constantly opposed, in the history of wars, Russian tenacity and English coolness to the fury of the French, who are imaginative and nervous, all animation and excitement, irresistible in success, but frightfully depressed in reverses.

We in the United States have a combination of these qualities to deal with. Some of our people have a mixture of these characteristics: others have one or the other form in a pure or nearly pure state.

Will our armies then have an average of these characteristics? A crowd does not have a character which is the average of the characters of the individuals that compose it, nor is it always swayed by the same influences. It has a character of its own, independent of the individuals of which it is composed. If a crowd influence starts in a small group it will soon spread by contagion to the whole, and will often cause individuals to act in a manner wholly foreign to their natural disposition. The predominating factor in our mixed crowd will then depend on which fraction first receives a strong moral impression and, by suggestion, disseminates it through the whole. Our army of mixed nationalities will not have an average of the characteristics of the races represented, but rather will tend to have the faults of all.

Physical wretchedness is one of the most rapid agents of demoralization. By physical wretchedness must be understood not only the absense of rations, but also the fatigues resulting from marches and combats and the anæmia that so rapidly overcomes troops in campaign. Among the causes that create a soil suitable for hallucination and illusion may be cited excessive fatigue, hunger or thirst; strong mental tension; profound mental or bodily exhaustion, and morbidly emotional conditions, such as fear. Panic, the daughter of hallucination, becomes extremely frequent with troops physically depressed.

On the other hand, a certain amount of hardship seems to be good for the morale of troops. To a limited extent man enjoys hardship. If it were not so, people would not go hunting, fishing or exploring. The amount that a man will find beneficial depends on his previous experiences—his bringing up. As to ourselves, we may say that the amount which the

average man is able to bear with equanimity has by the change in the mode of living been steadily decreasing since the Civil War. An amount that in the Civil War was to a certain extent pleasurable and exciting would now be felt as terrible suffering. We must understand, however, that troops inflamed by victory and whose morale is exalted by success can endure cheerfully the greatest privations and fatigue.

However, when to physical suffering is added demoralization, when wretchedness breaks down the body and defeat undermines the courage, panic becomes the uncontested mistress before whom the commanders themselves bow, repulsing the idea of battle, in order to avoid irreparable disaster.

It has been justly said that the moral forces are the preponderating ones in war. Moral force, which gives to troops the will to surmount all obstacles, to dread no danger and to desire to conquer at any price, springs from sentiments, varying according to circumstances, which animate soldiers and place them in a condition to be influenced by the suggestion of victory in combat.

In a general way, these sentiments are religious fanaticism, patriotism, enthusiasm for a commander, discipline, and, *most of all, confidence resulting from experience.*

Conclusions

After having reviewed the different causes of panic, there still remains for us to determine whether or not there are practical means for rendering them less frequent, of lessening their effects, and of checking them after the evil has been produced.

Among the indirect and immediate causes of panics, it is evident that several, such as race, are

beyond control; or, such as treason and surprise, cannot be foreseen. If known in advance, they could not exist.

Against these two factors of panic, only general preventive measures, designed to render them less frequent, can be taken. We must, therefore, resign ourselves to submit to them as an inevitable evil.

Other factors, on the contrary, depend on the commander, who is able, within certain limits, to suppress them.

It is a question of understanding troops, of administrative diligence, of discipline; and it is especially in this respect that past experience imparts instruction.

Thus the panic of the Tuill rie, in the battle of LeMans, demonstrates conclusively that it would be preferable to leave at home men who were neither armed nor instructed, rather than to lead them into combat, where they become a center of extremely dangerous demoralization. It is therefore most suitably the work of times of peace to make such preparation for war that means of giving the soldier in field resources to maintain existence, powerful arms and a skillful chief shall be provided; so that it may be possible to lead them into combat in such physical and moral condition that the chances of panic will be considerably diminished.

These chances would be still further reduced if troops be drilled to fight according to methods appropriate to their racial temperaments. It is necessary, indeed, that instruction, while taking into account arms, terrain, situation and numerical strength, be based upon the moral forces of the combatants. The penalty for doing otherwise is to find them useless on the day of battle.

Man is but little changeable, but little transformable. It is therefore from perfect knowledge of *him* that tactics must especially be derived, and that mathematical theories must be met.

Panic is an aberration of assemblages of men, an actual scourge of which tactics must take account.

With this in view, the following principles can be deduced from what has preceded:

1. Joint responsibility and confidence are two essential factors for steadfastness of troops in combat, and for their resistance to panic.

2. Troops must fight in the organization they are used to in time of peace, each man in his habitual place and with his proper unit.

In order that a man or troops may fight energetically, without apprehension, it is necessary that there be protection on both sides and in rear. The Roman soldier fought thus, being concerned only with the adversary in front; the men in the second third and fourth ranks protecting him on the flanks and in rear and replacing him in the front rank if he were disabled.

Consequently, reserves should not be too far distant from the fighting line, in order that they may give the latter confidence by their promptness in supporting.

3. The different arms must give each other constant support. The artillery, especially, the effect of whose fire is universally recognized, should support the infantry from near points, and should march, so to speak, in the midst of them. The soldier in combat must never feel himself isolated or separated from his brothers in arms.

Under modern conditions, the actual physical nearness of the artillery to the infantry will nearly

always be impracticable, but the constant support by fire will have the same psychological effect.

Artillery in combat, because of the grouping of men around immobile objects (the guns), and because of the widely separated pieces, each with its little squad immediately under the eyes of its chief, is least subject to panic of all arms, and for that reason artillery in action forms a strong supporting and rallying point.

4. The best troops—those whose steadfastness is assured—should be placed on the second line. Those who are struggling directly with the enemy have in action a powerful deterrent from emotion, namely, the centering of their attention on the incidents of the fight, without it being possible for them to think about their own personality.

On the other hand, the reserves have to endure the waiting, often for a long time, before their entrance into the fighting line; they have before them the spectacle of the battle and the sight of the wounded, and they are sometimes subjected to a fire to which they cannot reply. Troops with but little experience in war do not resist such emotions.

If the best troops be placed in the first line, the least recoil on their part causes the disintegration of the reserves.

5. Adequate ammunition supply is absolutely essential. Troops out of ammunition cannot, and will not, fight, except at the very closest range. Such troops will not only break themselves, but their panic will, by contagion, be spread to their neighbors.

This is an affair to be thought out *and practiced* in time of peace, remembering that the less highly trained the troops, the greater will be the consumption of ammunition.

In the combats near Dijon, in 1870, mobilized national guards, who were placed in the second line, were seen to flee by whole battalions, even though the first line was victorious.

To avoid surprise at any cost, troops should not only cover themselves in all directions from which the enemy may approach, but they should also, if possible, be warned in advance of the probable incidents of the combat. DuPicq observed that Hannibal was in the habit of thus treating the troops of the center of his line of battle, who, though always broken, nevertheless never fled.

Morgan, at Cowpens, realizing that his militia was going to flee anyway, told them to fire a volley or two and then run. They did this, and thus, everything being expected, they were so encouraged that they had the nerve to come back and materially assist in winning the victory.

During the action, but not by any means during the preliminaries, the proper post of the chief is behind, not in front of his troops. It is under his eye that they must fight, the surveillance that he exercises being sometimes sufficient to repress the first faint desire for flight. In addition, the commander should take before the fight certain measures designed to diminish the chances for fright and suitable for keeping men under fire. The orders on this subject, given by General Chanzy on the 10th of January, 1871, at LeMans, have been celebrated:

“The approach of LeMans is formally forbidden to troops and officers of every grade. Any movement from front to rear on the battlefield *must not* be made at the trot or gallop. Each army corps will guard its rear by cavalry to pick up fugitives and to prevent all straggling. Fugitives will be brought back to the position and kept on the first firing line;

they will be shot if they seek to flee. If disbanding should happen to take place, the general-in-chief would not hesitate to have the bridges in rear of the lines cut in order to force the utmost defense."

Some of the regular cavalry regiments were used in a similar manner during the combats of the Civil War.

Complete supply and organization, providing largely against material wants, appropriate tactics, and instructed nuclei of the units are the elements in troops, other than valor, suitable for warding off panics. These elements, which, added to discipline, endurance and exalted morale, constitute an appreciable force, are still insufficient in themselves. Only *joint responsibility*, born of experience in war, can ever offer an impenetrable resistance to the contagion of fear. Therefore, panics among troops will occur, whatever the cares the commander may have taken to prevent them. Can they be stopped at the very moment of combat? Yes, if the chiefs are energetic and know how to take suitable measures in time.

"Collectives are the playthings of all exterior excitants, and the latter's incessant fluctuations are reflected in them. They are the slaves of impulses they receive." It follows that troops influenced by suggestion to panic can, if a sufficiently strong will be imposed upon them, receive an absolutely contrary suggestion, which they will obey with the same docility that they did the first one.

History is full of deeds where the attitude of a chief, a happy word, or a gesture have changed in an instant the sentiment of troops. It was Caesar, in the battle of Munda, dashing afoot in front of his fleeing lines, who cried: "See what chief you are about to betray and on what occasion!" It was Ney,

standing in his stirrups, calm and impassive under the musketry fire, who addressed his broken soldiers thus: "Death strikes only those who hesitate! Look at me! It has not struck me!"

Washington, at Princeton, rode out between the lines and sat on his horse fully exposed to the volleys of both sides, and this steadied his men. Also recall the effect of Sheridan's example at Winchester. It is not the words, which few if any hear, nor the gestures which more, but not a large percentage of the whole, see, that brings back the whole mass. It is the words or gestures that influence a few; then contagion spreads the effect through the mass, which knows no more why it turned back than why it first started to fly.

Prestige is the first element of the habit of obedience. It causes the acceptance of an idea without discussion or controversy. If the one from whom the idea emanates possesses prestige, the suggestion is received from the outset and appears most logical and true in the eyes of all. Orders given under these conditions partake of a peculiar force; and it may be said that the best obeyed commanders are neither the best instructed, the most intelligent, the most paternal, nor the most severe, but are those who have innate or acquired prestige. It is necessary, then, that prestige be the dominating quality in a leader of men. It is because of it that his suggestions take on an irresistible power, that he is able to throw his soldiers against the enemy in an enthusiastic assault, and that he can stop with a gesture the first fugitives, transforming them into heroes.

So, for that moral aberration of collectives, panic, two remedies of a moral nature present them-

selves: *Prestige of the commander, and joint responsibility of the troops.*

Some have prestige inherently in their composition; others seem to have acquired it almost by accident, while a certain amount of it is acquired through exterior surroundings.

Military organization, in giving an officer uniform, instruction and extensive powers, favors the acquisition of this quality, which he, nevertheless, cannot actually possess without a profound understanding of the sentiments that animate his troops, without a surveillance of their persons and acts, and without the worship of military honor. In addition, it is essential that he have the words and gestures of a chief.

More difficult is it to inculcate in troops the sentiment of joint responsibility based upon mutual confidence. It can exist in a high degree only in soldiers who have gone to war together; for souls are revealed only in crises, and characters are verified only in suffering and dangers. If no one knows himself until he has suffered, still less does he know others until he has suffered with them. Napoleon said of the soldiers at Waterloo: "They had not eaten soup together long enough." The important thing is not to eat in the same room and at the same hours, but rather at the close of the same fatigues and in the midst of the same dangers. This is because the only means we have of developing joint responsibility among soldiers is to subject them to the same harsh proofs, which grow more and more painful, and which are wisely graduated and energetically endured.

Part III

PSYCHOLOGY OF INFANTRY COMBAT¹

*"Cowardice is fear yielded to;
Courage is fear vanquished."*

LEGOUVÉ.

IN APPROACHING this subject, the first thing to consider is the attitude of man when under the emotions of a fight.

Combat is the final end of armies, and *man* is the first weapon of the combat; there can be nothing well understood about an army without an exact knowledge of its first weapon, man, and of his moral state during the excitement of the action.

It often happens that those who treat of warlike things take the arm for the basis of the argument, thinking that the man called to serve it can always be counted upon and ruled by their precepts and regulations. But the combatant, as a reasoning being, abdicating his mobile and variable nature to become a pawn in the game of war, is a creature of the imagination, not the man of reality. The latter is flesh and blood, of body and soul, though the soul has often dominated the body and forced a revolted and unwilling body into the maelstrom of destruction.

It has been said that in our day war has become a thing of knowledge and calculation. Not so; war—so long as there shall be war, and one risks his life

¹Taken to large extent from "*Psychologie du Combat de l'Infanterie*," by Lieutenant Louque, itself mostly made up of quotations. The greater part of these quotations, where used, have been verified from the originals.

therein—will be essentially a thing of instinct, of psychology.

We will then commence by a study of the individual.

Man Under Fire

In order to have all the data of the problem, let us first look into the state of mind of the man when the action begins.

Torn a short time ago from his work, his interests, his affections, the volunteer—the element that makes the majority—has been brutally thrown into the chaos of a feverish mobilization, without having had the time to fully arrange his business affairs or the affairs of his heart. He has been rushed to mobilization camps or camps of instruction. He has had some drill and gained some instruction. He has also suffered from bad camps, selected for political considerations; from bad clothes, because we have no adequate reserve of clothes for issue and the contractor for war clothing can use poor workmanship and worse material with impunity; from bad food, because transportation facilities were paralyzed, deliveries delayed, and most of all because no one in his company knew how to use the ration; worst of all he has suffered from loss of morale because the yellow journals have been publishing all kinds of stories of the horrors of war and the inefficiencies of his commanders. Added to this, he worries over the family he left behind, perhaps to suffering and want during his absence.

Now let us make as exact a picture as possible of real combat.

“When one reasons in full security, after dinner, in full moral and physical contentment about war, about combat, one feels himself animated with the

noblest ardor, and he denies the reality. Nevertheless, if you take just such circumstances, how many would be willing at once to rise and risk his life? Then how about those who have been obliged to march in discomfort for days and weeks to reach the hour of combat—who, on the day of combat, have waited in a state of expectation for hours before the moment arrives? If we are sincere, we can see how the physical fatigue and moral anguish have weakened the morale—how much less willing we would be to participate in an action than thirty days before, just after a good dinner.”—DUPICQ.

General Dandignac, in order to give an idea of combat, puts before our eyes the sad agitation of some, the depressed abasement of others, the silence of officers ordinarily loquacious; the paralysis of wits which, habit not holding in place, are now not only incapable of leading, but of being led; the weakness of the soldiers in whom emotion conceals all sentiment and who crouch or lie down, and those, on the contrary, who have appeared timid and mild, but who now shine out suddenly as tranquil and brilliant and who will be the heroes of the action to the astonishment of everyone, including themselves; imagine the air filled with screaming projectiles, the zones of dust where projectiles strike between us and the sun; the spat of a projectile striking a human body, the clatter of the gun of a man who falls.

As the zone of artillery fire is entered, organizations subdivide; they advance into this zone and the subdivisions divide into groups. Bullets sing close, “I want you,” “I’ll get you.” The sound is not reassuring.

Little by little ground is gained under the cover of accidents of the terrain. But the bullets become more menacing. Now it is necessary to advance

small groups while the others fire. This is not easy. The men of advanced groups gain cover. Eventually others come up. Again comes the cry, "Forward!" The soldier is down behind cover, and fear says, "Stay here," while duty should say, "Go forward." This struggle in the soldier's mind goes on at each halt. Now the buzz of ricochets is more frequent; they can be distinguished plainly from the whistle of the high shots. What a demoralizing effect this has on supports that are suffering loss and cannot reply! Finally in their turn they will arrive where they can shoot—but where is the enemy? Nothing can be seen. What has become of the soldier's old comrades? Who are his new neighbors? They are more numerous, but he knows no one. Where is the officer to whom he has always looked for orders? Who is this new chief? He is not alone, but he feels as if he were, and it is necessary that his morale be good, his patriotism great, for he feels that under the orders of chiefs that do not know him his glorious deeds will never be recorded—perhaps infamous deeds will never be recorded either.

Each forward move requires great mental strain—takes perhaps hours to accomplish. Even the halts give no rest—no let up to the nervous tension. The men crouch in uncomfortable positions behind insufficient cover, the deadly projectiles constantly singing in their ears and a knowledge that each movement constitutes an additional danger of death. The human organism is not constituted to endure danger of this intensity, and *above all of this continuous duration*. "The fire of the defense does not destroy the assailant, but demoralizes him to such an extent as to suppress all effort."—GRANDMAISON.

The duration of the test besides is considerable. In places of battles that lasted an hour or so, we now have battles that last a week or ten days. Night even gives no rest. Day succeeds day, and the struggle is eternally going on. The cessations in the firing are more terrible than the periods of activity. The nervous strain continues and the least exposure brings a hail of bullets. No one knows what turn affairs will take. The soldier cannot take his mind off his enemy, whose position, strength and resources of ammunition are unknown. He remembers the cartridges he has fired and the difficulty and uncertainty of their replacement. The cries of more or less distant wounded comrades strikes his ear. All this tends to break down his nervous system.

The exhaustion of mind and body is complete. Troops even go to sleep on the firing line from sheer exhaustion.

The Russian Captain Soloviev, speaking of the soldier in the Russo-Japanese War, says:

“As a general rule, our soldier in battle has an astonishingly simple and everyday demeanor. He who expects to see something out of the ordinary, something heroic on his face at these decisive moments—something picturesque and dramatic—is mistaken. The soldier remains the same ordinary man as before, only his face is somewhat paler, and its expression more concentrated and serious. His nervous and rapid firing alone betrays the inner struggle. It is at that moment that it is necessary to master the soldier’s impressions and bring him to a normal condition, as far as this may be done in battle.”—SOLOVIEV.

“Each eye-witness of battle may confirm how narrowly the men watch their officer. The soldiers judge by their officer the condition of affairs, the

greater or less danger, the success or failure. * * * Woe to the unit which in time of peace did not become impregnated with the spirit of iron discipline. It will pay dearly for it in war.

“To quiet the men, it is useful to make remarks concerning the service alone. For example: ‘Why are the sights not set in that squad? Squad commander, what are you thinking about? Examine and correct immediately.’ If the commander is angry, reproves neglect—this means that there is nothing unusual—that everything is going as it ought, and that there is no cause for fear. The men grow calmer and forget that bullets are whistling about them.” * * —SOLOVIEV.

A threat or a joke may bring men to their senses. “But a threat must be serious, and the men must feel that it will be executed if need be. Angry words and shouts can do nothing.”—SOLOVIEV.

“It must not be overlooked that the soldier separated from his comrades in (a thin skirmish) line during the advance, and withdrawn from the influence of his officers, succumbs more easily to temporary spells of weakness and is more apt to remain behind than the skirmishers in a dense firing line.”—BALCK.

In South Africa the British used thin firing lines and failed. The Japanese used them as a maneuver formation to reach a position from which effective fire could be opened and then promptly thickened the firing line by sending successive thin lines to join it.

Examples of Skulking

Hohenlohe tells of crossing the battlefield in the war of 1870 and finding it covered with skulkers—whole battalions of them. Some were lying down

with their guns pointing forward like skirmishers—evidently they had remained there when their comrades advanced. Others were hiding in holes and ravines. All had an indifferent air. It seemed to be sufficient for them that the party of officers riding by did not belong to their corps. Some cried, "Look, here are some more who are going forward to get killed."

Captain Culmann describes finding at Wörth five men in Indian file behind a small sapling, who had remained there several hours.

Quotation from a French description of the defense of Saint Hubert, 18th August, 1870: "Four hours! Rain of bullets, all high. Ah! Look! A line of battle coming to support us, well aligned. The marshal in the center, the colonel on the right, Sourdrille on the left. It is the 3d Battalion. From my place I see holes made in the line, which soon reaches us and wishes to share our shelter—hardly sufficient for us. They get in two and three ranks; the occupants refuse to yield the place which they have had all day. They need not have sent all the soldiers in the world. We needed only cartridges.

"What is that? We are turned! No; our friends 200 meters in our rear are firing on us, taking us for the enemy. We sound 'Cease firing'; we make the signal, but the fire continues. My under lieutenant asks permission to go over there; he rushes forward through a storm of bullets, reaches their officers and finds among them some who ask if he really is a Frenchman. However, the fire ceased. That battalion rose up and rushed to join us. Where could we put them? Everyone got behind something and began to shoot. We were in ten ranks. The front rank cried that the fire of those in rear menaced them. I struck those nearest

me with my cane, and finally ended by turning my back to the fire of a Prussian battery which was less dangerous than my comrades."

A Prussian captain wrote in 1876:

"I see many people occupied in trying to devise means to make the enemy's fire less effective, but I acknowledge with regret no one seems disquieted by the serious losses caused by men of the same troop firing on each other."

We see above the demoralized individual. Previously I have given you something about demoralized crowds, *i.e.*, panics.

Fear

"Courage is neither so common nor so invulnerable as the public suppose. A person is very variable as to courage; he has his good and his bad days, depending on exterior circumstances, such as physical or mental fatigue, cold, heat, hunger, thirst, or the news received.

"As to the average—the ordinary man—it is necessary to flatter a little to appease public opinion. Without doubt he is capable of many fine moves, but subject also to strange reactions. It is said everyone is brave, but when one comes to the fact one finds few of uniform courage."—*La Guerre et l'Homme.*"

"Of all animals, man is the most cowardly. If one studies the faces before the battle, he will realize this. For a man to sacrifice his life for the success of the end that the army pursues is a rare thing. Are there so few absolutely brave among so many brave men? Alas, yes. Gideon found 300 among 30,000, and he was surprisingly lucky." "The absolute bravery that does not refuse to fight even against odds, trusting in God or destiny—this bravery is not

natural to man; it is the result of moral cultivation, and it is infinitely rare, for always in danger the animal sentiment of self-preservation bobs up; man calculates his chances and makes how many errors?

“Man has a horror of death. Among *corps d’elite* a grand sense of duty, which they alone are able to understand and reach, sometimes makes them march forward; but the mass always recoils at the sight of destruction. Discipline has as its end to do violence to this horror by a greater horror—that of punishment or of shame. But there always arrives an instant when this natural horror takes the upper hand of discipline and the combatant flies. When the combatant is long under fire, there is produced the selection of which Skobelev speaks. The brave and the men of good intentions keep up; the others, the cowards, waiting under cover, weaken themselves and the others, delaying the execution of orders, breaking up the movement and impeding the effectives. Fire, even from a great distance, has then produced disunion, material and moral.”—DUPICQ.

“Fear is then an enemy that we have not taken into account, yet it is really more terrible than the real enemy, for it weakens the effective strength more than the latter.”

“Fear! Does it pass the chiefs or the soldiers by? Those passed by are of a rare character. The mass shudders, for the flesh is weak; and this shuddering must, under pain of making a mistake, enter into calculation as a given essential in all organization, discipline, dispositions, movements, methods of action—all things that have for their end the separation of mortification and fear, to make it leave us and go to the enemy.”—DUPICQ.

Patriotism, love of liberty, religious spirit, fanaticism, *amour-propre*—these are all the factors, all

the components which, added up, make the spirit of self-sacrifice. The spirit of sacrifice always encounters an enemy—fear.

Fear! That is the thing to vanquish in order to assure the victory.

Battle is a terrible drama, a bloody tragedy, which unfolds itself to the hearts of all soldiers, from the humblest to the most exalted. It is a struggle of two moral powers; the conquered are not those who fall dead or wounded, but those who followed and who rushed away because they were afraid. Fear is a very natural human sentiment. Those who are reputed to have been most brave have acknowledged it.

Ney said: "The one who says he never knew fear is a compound liar."

Grant said that he realized that the enemy was as afraid of him as he was of the enemy, and that this thought helped sustain him through his battles.

Turenne said to himself before a fight: "You tremble body! Well, you would tremble more if you knew where I am going to take you!"

Skobelev, always admired for his coolness, even in the most perilous moments—always impassive under fire—said to a friend: "It is folly to believe that I am brave and that I fear nothing; I confess that I am a coward. Every time that I enter an engagement I say to myself that it will be my last." This confession of Skobelev makes one think that the various stories of men foreseeing their death in the coming battle may be accounted for by the fact that many have Skobelev's feeling on entering a fight, and of course some of them are killed.

Fear manifests itself by trembling. Under the influence of fear it is impossible to manipulate a small and complex mechanical device, for the fingers

are trembling and convulsed. This is a reason why the mechanism of small arms should be very simple, and the trembling of human muscles in fear is one of the two principal reasons why battle scores are only from one-fiftieth to one-seventieth as good as target scores. Inability to accurately determine the range and uncertainty as to where the bullets are going is the other reason. Another authority—*"Psychology and Neurology of Fear"*—says: "One of the physical expressions of fear is a paralysis of the motor muscles of the eye," and "All violent emotions cause changes of the physical system." (See pages 3, 10 and 32.) To go back to the first reason: Fear dilates the pupil of the eye and interferes with its focusing. It contracts the muscles of the chest and interferes with the breathing and lessens endurance. The man who stays to fight and will stay to the end is not free from fear. His muscles tremble and the pupil of his eye dilates. The target is not clearly outlined because of the imperfect focus of the eyes and the rifle is not held steadily, because, though he grits his teeth and tries his hardest, still he cannot keep the muscles from trembling. Is it any wonder that battle practice is far inferior to target practice? Is it any wonder that foreign nations consider our refinements of target instruction as time wasted?

"For what is perfection, one should recall the Spartan. If ever man had been perfected with a view to war it was he, and, nevertheless, he was beaten and he ran. Then, unhappily for education, moral and physical force has its limitations, since the Spartans ran away—they who should have remained until the end on the field of battle." The prominence of the story of Thermopylæ shows how

exceptional was the case when even a comparatively small force would fight on till the end.

Modern combat is more terrifying than ancient combat. The losses suffered are perhaps less, but the conditions are not the same. In ancient times the warrior who had confidence in himself and his neighbors could expect to come out unscathed. Now bullets are anonymous and come out of space to strike the brave and the expert as easily as the cowardly and untrained. Formerly losses came almost entirely after the break; now they begin at 4,000 yards from the enemy and may continue for days. In ranks the old warrior had little fear; combat was not dangerous. He received and gave many blows, but nearly all were parried. If well trained and well supported by his fellows, he had little to fear. Now the soldier feels isolated. He becomes separated from his officers and comrades. Neither officers nor comrades can visibly protect him from the unseen blows of flying bullets. The length of the struggle and the feeling of contending with the unseen, combined with the sense of isolation, makes the strain of battle much more intense than formerly.

During the long days of battle the man will be subjected to all kinds of discomforts, including difficulty as to subsistence. Often the wounded cannot be removed from the firing line till night. Their cries still further add to the depression.

When high explosive shells burst the effect is small—almost nothing—against living targets; the pieces are too small, being almost dust. On the other hand, "It does but little damage, but the noise is fearful and its explosion throws up a great column of black smoke, mud, pebbles and fire which produces a great impression upon inexperienced soldiers. The moral effect is absolute."—SOLOVIEV.

The results of fire will vary from nothing to a maximum. When the enemy is cool and has a good target, losses will be great and very sudden. At Mägersfontein a British regiment returned the Boer fire for three minutes and then broke. It lost 10 per cent of its effective strength. It may be said that 10 per cent is not an excessive loss, but 10 per cent loss in three minutes is sufficient to make any regiment break, for such a quick and severe loss will at once give the enemy the ascendant morale. This is the argument for the use of machine guns. If they can be used effectively the losses they will inflict will be so sudden and so great as to break the morale of any troops exposed to their fire.

Comparing a mounted to a dismounted action under modern conditions, Lieutenant Colonel de Maud'huy says: "The charge is a spoonful of bitter medicine to swallow. First one makes a face and then swallows it at a gulp. For infantry it is not a spoonful of medicine to swallow at a gulp—it is a large bottle to be taken drop by drop, and each drop is more bitter than the last."

Method of Combat in Harmony With Instinct

One of the impressions most regularly received from recent combats is the almost complete impossibility of conducting the fight on the firing line itself. Subaltern officers, obliged to seek cover like their men, find their zone of influence to be very small.

At a distance from the enemy officers are able to give precise directions and see that they are carried out, but as they close with the enemy these directions become more vague and supervision of the details of how they are carried out becomes impossible.

The valor of the individual combatants becomes the principal factor of success. In reality all the officers can do is to exercise an influence toward decreasing the disorder and keep confusion from becoming worse confounded.

Firing at split ranges will likely be found impossible. The attention of the men cannot be gained enough to have the sights so set. Besides, the attention being so strongly held by the enemy, "under the influence of fear one can suddenly become deaf." —"*Psychology and Neurology of Fear*," page 29.

The officers, being human, follow the common rule—they are afraid, themselves. At a given moment they have felt that their men were escaping their influence, and they have been struck with the same feeling themselves. They dare not acknowledge that their men got out of hand. They do not like to speak of it, which is natural. Really they were not responsible. It was the peace time education which made them believe in impossibilities that was responsible.

We must learn to modify the mathematical and dynamic theories of material things when we apply them to combat; to throw out the illusions of the drill and maneuver ground where our experiences are with the man in his normal condition, calm, attentive and obedient, intelligent and docile. In combat the human instrument, from chief to soldier, is nervous, impressionable, distraught, excited. Complex movements are impossible to man in this condition. To order such a movement is to order the impossible—and, the impossible ordered, discipline is at an end. The effect is to disconcert both officers and men by the unforeseen and by the contrast between exercises at drill and a real battle. Battle

always has its surprises, but it is not therefore necessary to add these unnecessary surprises.

At drills we have confined the soldier within bounds that we set, but in battle he escapes from these bounds and the officer feels lost.

Truly, if to the causes of fright already described be added that of seeing at the time of test in war that the peace time formations dissolve and are useless, then will we have everything necessary to total demoralization. The soldier would have more confidence in chiefs that he accused of lack of foresight and incapacity.

Xenophon said: "Anything, be it agreeable or terrible, the less it is foreseen, the greater will be the pleasure or fear it causes." "This is nowhere more true than in war, where every surprise strikes even the strongest with terror."

Physical or moral fear has its germs always preëxisting, and it is the sole true enemy, the cardinal enemy to fight, to master, to watch without ceasing. The least unforeseen event, the least surprise is always liable to unchain this contagion of fear which shatters all morale.

One must keep abreast of his time. The army must progress in company with science and armament. It is not possible to so progress when we have an ironclad "normal attack." Such a thing is as foolish as an old French idea of laying a drill ground with stakes to mark the point for firing volleys, for extending to a flank, for changing to individual fire, etc., so that their drill book could be exactly followed. Why teach an absurdity that any thinking man can see will be not only useless, but dangerous to try to apply in reality?

All this formality will inevitably crumble under the first hostile fire.

In our service we saw enough in 1898 to convince anyone that normal formations of any kind were utterly useless and senseless and improvised something to take their place. The Franco-German War should have shown us that a highly centralized bureau system of supply would utterly break down in time of war.

In 1898 we got a stronger hint to the effect that our supply system was not a thing of which to be proud. As Mister Dooley said, "The army cannot live on general orders." Now look at your file of general orders. It is a formidable looking volume, is it not? In fact, that volume of general orders is getting heavier each year. In exactly the same proportion is the difficulty of transacting the ordinary everyday business of a troop or company increasing.

Will those methods stand the test of war? Never. No company commander on active operations could keep up this mass of required paper work. With the additional papers required by army, division, and brigade headquarters a company commander with two clerks and a set of modern office equipment could not keep his papers up to date. He would need half an escort wagon to carry around the blanks and office devices necessary for him to make even a reasonable attempt to do so. What system, then, will be used in war? None; there will be chaos, and the most successful commanders will likely be those who entirely neglect the requirements of orders and grab any supplies they can get their hands on. That leads to still worse confusion, yet it will be simply a case of self-preservation to do it.

Perhaps the next hint we get that it is time to change our supply and record system will be stronger—it certainly will if we go up against an enemy of

any strength. In a severe struggle on our own territory soldiers will starve to death and die from fatigue and exposure because their officers were absolutely unable to obtain proper supplies and have them delivered, while at the same time ample supplies will be on hand, but at a point where they are not needed.

Since the above was originally written our new Field Service Regulations have greatly improved our system of supply for war service as far as concerns the Commissary and Ordnance Department. Though these new methods seem good in themselves, they will be new to the troops and are as yet untried in practice. We still lack a suitable system for the supply of shoes, clothing, etc., and *most of all we have absolutely no system arranged for replacing losses in men.*

The excuse for the numerous reports and returns and approved requisitions is that such a system insures the government against fraud. We all know it does not do so in peace, and in war, when the whole system breaks down of its own weight, the door will be opened for wholesale fraud that can never be detected. The ultimate insurance of the government against fraud is in the integrity of its officers. We can never make war till we acknowledge this and base our system of administration on that alone.

A French officer says: "In 1870 I had but six months' experience as an officer. I had great confidence in my captain, who had made the Italian Campaign. I told him of my feeling of weakness because of my lack of knowledge of military regulations. He replied, 'Reassure yourself—in war there are no regulations.'"

To go back to my subject, the following statement about the necessities of modern battle seem to me reasonable:

The firing line must be strong enough for the soldier to feel that the line is full and strong, thus inspiring confidence; but it must not be overcrowded. Troops lying down under fire do not tolerate the near presence of reënforcements or of an officer which draws the hostile fire upon them.

There is no danger in leaving considerable intervals between companies on the firing line. It is not like it used to be when effective range was 100 yards. Now no one can throw himself into these intervals. If it becomes necessary to reënforce, such intervals allow formed bodies of reënforcements under their own officers, and with their own complete organizations to join the firing line.

These principles may be said to state the formations best adapted psychologically to the battlefield of today.

“Tactics is, has always been, or at least should have been, the art or science of making men fight with the maximum of energy, a maximum which organization alone is able to develop against fear.”—
DUPICQ.

Moral and Material Support From Artillery and Machine Guns

It takes very little sense for even a frightened man to realize that friendly shells that pass over his head on the way to do damage to the enemy are an advantage to him. If only he is not confused, and thus believes the shell hostile to him, such fire will strengthen, not weaken his morale. The man who is unaccustomed to the sound may make this mistake before he realizes that the shells are friendly. A

panic may result from this mistake. For this reason it would be of advantage to troops to have a little drill with such fire passing over them.

Here is what happened at Liao-Yang: "Kuroki had before him 300 pieces of artillery that fired without ceasing for eleven days. The consumption of ammunition was enormous, and has been placed at 500,000 projectiles, including fragments of the shrapnel, fired by one battery in one day. Result, 750 men were reached. That is to say each battery touched in some manner one man in a day. This is reassuring against danger, but not against fear. All those pieces did not kill as many as one would have believed; nevertheless they attained their end—the demoralization of the enemy, for the enemy did not know in advance what the results would be."—DE MAUD'HUY.

Effect of Artillery Fire

Attack on the vicinity of the "Bridgehead" at Liao-Yang
August 30th-September 2d:

Russian artillery intrenched, and not greatly bothered by Japanese fire.

Russians had 156 guns and expended about 89,000 shrapnel.

Japanese lost during the four days 828 men from shrapnel fire, being 7.98 per cent of the total loss on that part of the field. That is 107 shrapnel necessary to disable one of the attacking party. Range, 3,000 to 4,000 meters.

Mukden, February 27th-28th:

Japanese fired 3,500 shrapnel at Russian 25th Division. One shrapnel took effect, killing three and wounding three.

Shaho, October 13, 1904:

Three thousand two hundred shrapnel fired at Russian 137th Infantry, posted in a trench. Russian loss, due to this fire, was three killed and seven wounded. That is 300 projectiles to disable one man.

Same writer gives many instances where positions were abandoned by infantry solely on account of the moral effect of the artillery fire to which they were subjected, in many cases the material effect having been almost *nil*. Especially so of heavy guns.—Russian writer on "*Extent to which Field Artillery Influences Modern Battles*," General Staff Translation No. 2358; College Library No. 12764.

A Japanese general said to M. Kahn, war correspondent: "See that battery firing in front of us; it aims at the Russian redoubts at 3,500 meters and it is composed of mountain guns. I am sure at this distance of not killing many Russians, but I have no doubt of the pleasure which our infantry, two kilometers in front of us, take in hearing the shells go over their heads."

The moral support of machine guns, especially if permanently attached to the regiment, will be greater still, for the rattle of their fire, once heard, is never forgotten.

"The employment of machine guns was for the first time quite great in the Russo-Japanese War. Both sides have attributed to these machines a principal rôle, both in attack and defense. In moments of crisis they invariably constitute a strong point of support. These guns are free from the effect of trembling nerves and muscles, and for that reason are especially valuable in supreme moments."

Right here we get a good idea as to the proper use of machine guns. In supreme moments their effect is great, their moral support being as great as the physical. If they are pushed too far forward in the attack or held to the last minute in defense and thus are captured, still the material loss is small. Used too liberally during the action, such guns consume enormous quantities of ammunition—far too much—but used *right*, their support, both moral and physical, will be invaluable.

Morale—How Developed

To give a definition of morale is difficult. It is a compound of various sentiments, such as self-confidence, confidence in one's comrades, in one's

chief, solidarity, a sense of honor, etc., but it has its foundation in a previous moral education begun in the family, added to at school and completed in the regiment.

Improvements in firearms have increased the distance between the different arms in battle, while their need of mutual support is still as great as ever—perhaps greater. The more one arm feels itself isolated, the greater is its need of morale. This consideration applies particularly to infantry with respect to artillery support. Artillery is the supporting arm *par excellence*. It is composed of arms served by men, but here man is the second part. The material here unites the men, and the power of the piece is the reason for their being. The man fights only by serving the machine.

Within certain limits losses of men do not affect the fighting efficiency of the battery. Trembling nerves and muscles do not diminish the accuracy of its fire—its sole fighting power. Even with severe losses it can continue firing, which suffers in effectiveness only as a frightened brain and trembling muscles cause errors in setting of sights and fuses.

So the artillery constitutes, as it were, the bone of an army—its solid part. Its morale—and here we may give morale its true definition, namely, *resisting power*—its resisting power, therefore, resides in its fixed position, its relative weight of metal thrown and in its collective employment. The artillery personnel is collected in one place and always under direct command—that is, the individual artilleryman never feels himself isolated. As a fighting engine the artilleryman as an individual does not exist—the fighting unit is a collective, not an individual.

From this it results that artillery, even with volunteer personnel, is capable of solidity, of complete fire control, of withholding its fire at the will of the chief. In artillery the men are capable of a unity of action that is not possible to the other arms.

Cavalry, on the contrary, is the arm of movement, of rapidity and of improvisation. As De Brack says, "Its rapidity is its value." In mounted action cavalry has an advantage, due to the fact that horse and rider are one unit, and the horse, a headstrong and excitable member of this dual unit, is ever anxious to stay with his comrades. In mounted action there are no skulkers—if the officer's force is leaving him he can know it. In dismounted action, also, the horse helps to prevent skulkers. The dismounted cavalryman does not know where his horse is or how to find him. The captain does. The soldier feels the horse as a part and himself the other part of the fighting unit. Separated from his horse when the troop moves elsewhere, the cavalryman will be left to shift for himself. He therefore desires to keep open the connection with his horse, and the troop commander being the connecting link, he stays with the troop commander. It is frequently stated in books that cavalry dismounted to fight on foot has less skulkers than infantry, and the above assigned as the reason.

On the other hand, in reconnaissance the cavalryman is habitually isolated, and here he needs a self-assurance and morale that is greater than that required of any other arm. This can only be developed when a man is thoroughly at home on his horse, knows the capabilities of the animal and his individual peculiarities and has himself been thoroughly trained. That is to say cavalry worthy of

any confidence cannot be improvised—it must have long years of training.

In infantry the human element dominates all the rest. Its essential is solid character, unity of action and mutual confidence. The man, and the man alone, makes the measure of these elements. All the power of the arm resides in the man himself. His solid personal character is his birthright; unity of action and mutual confidence come from the military education his nation has given him.

In this arm, in battle, there is no heavy and collective material to serve as in the artillery. Its strength is not due to position; armament is individual, cohesion cannot be forced; it is an affair of the will of the individuals. In the combat the mounts do not instinctively group themselves as in cavalry; there is no headlong rush, but men, weighed down under the weight of human feelings, advance slowly and painfully by an intense effort of their own wills. It is the duty of the officer to educate his men to a morale capable of this mental strain. By instruction and example he can do this if the recruit in his childhood has had ideas of honor and duty to country instilled in him—otherwise not.

Our children don't get the love of country inculcated in them in the schools as we did ourselves. In the average family this is the case as well. We amuse the children by taking them to see moving pictures—not by telling them stories of the deeds of our ancestors. We do not lay the foundation for strong, patriotic characters as did our fathers. Our population is becoming more and more mixed in character. No longer can we raise regiments where every man will be of the characteristic American stock, of the same general level of education and ability, of the same good average, honest, faithful,

personal character. No longer can we count on our average man making the best of what he can get in the way of rations—instead we will try to furnish infinitely more and will meet much more grumbling for our pains. We could not hold an army together a month on the food of the Civil War.

The education that an officer gives his men should tend to develop their morale by developing all the human faculties that inspire—

Sentiments of duty and honor.
A sense of the value of discipline.
Love of country.
A willingness to do his duty.
Audacity and contempt of danger.
Self-respect.
A spirit of devotion and self-sacrifice.
Confidence in his leader.
Reliance on his comrades in battle.

Before an action it is of use to say to the men a few words, that, if they do not inflame the imagination of the men, will at least show them that their leader is there, and that he is confident.

At Pickett's advance, last day at Gettysburg, General Gibbon rode down the lines, cool and calm, and in an unimpassioned voice he said to his men: "Do not hurry, men, and fire too fast; let them come up close before you fire, and then aim low and steadily." "The coolness of their general was reflected in the faces of his men."

The nature of these remarks, even the utility of making them at all, depends on the character—or better, the race—of the soldier. For a Frenchman, such attempts to inflame the imagination and excite enthusiasm might be continued at every halt during the deployment and even after the first shells began to arrive and crowned by a supreme effort just as the serious action began. This was the idea of Na-

poleon, who used to ride along his lines at the beginning of an action to increase the enthusiasm of his men. With us a cool, cheerful, confident bearing of the officer—even a joke cracked at another officer—would better answer the purpose than a fiery speech. The main point is to keep the command from sinking into the silent, self-centered dejection that comes from letting each man have time to brood over his personal danger. In making any effort in this direction it may be well to remember that it is always easier to secure the attention of a crowd than of isolated individuals.

Here arises one of our many difficulties in handling our troops of today. We have a predominant percentage of the typical American men, but we are yearly getting a larger percentage of people of different mental characteristics. An harangue that would enthuse the people of southern Europe would not have any good effect on the typical American stock, neither would our officers be capable of such an harangue. It does not seem that we will ever be able to separate these elements into regiments according to nationality, each with officers of its own kind of people. That makes a heterogeneousness to the rank and file that mitigates strongly against developing a strong morale. A couple of instances of how morale can be quickly developed with our typical American stock may be quoted: Grant, when his men were constructing intrenchments under fire and fast getting out of hand, coolly walked to the top of the intrenchment and sat down in plain sight to smoke a cigar. That, without a word being said, was sufficient to steady his men. Another example: During the fight at the Zapote River, in 1899, several companies for hours faced the *insurrecto* trenches across the river, but at very short range, holding the

insurgents to the trenches while search was made for a passage for a turning movement. The Filipino fire was heavy, but inaccurate. One of our infantry companies expended a surprisingly small amount of ammunition and the company was in the best of spirits throughout because the company commander went along his line and assigned each man a small area to cover and told him that that short stretch of hostile trench was his—that he could lie still with his gun at a ready, and when a head showed he could get it—also that any dead later found there would show how good a shot he was. In a short time this sniping at the other fellow's head became a sort of game; all sense of fear was lost, each man trying to score a hit, and in becoming the hunter each man lost all thought of being hunted. When Grant, at Donelson, sent all his staff to spread the news that the Confederates were trying to escape and called on his men to prevent their escape, he showed a thorough grasp of the psychological change that would result from letting his men feel that they were the hunters, not the hunted.

To continue with our subject:

If you know a certain danger threatens it is better to warn your men to expect it, for an expected danger is better withstood than one that comes as a surprise. The French regulations of 1809, made up by Napoleon, laid it down as a principle that the men should always be forewarned of the danger to which they were about to be exposed—that if an extraordinary effort was to be demanded of them they should be so told, but that in any case, though warned of the danger, it should not be exaggerated to them.

A French author also suggests that any feeling of being in communication with the officers helps steady the men, and he suggests that for that reason

it is advisable to make pauses in the fire and to have the men habitually trained to repeat and help to transmit the order to open or to cease fire.

Physical exercises develop in the recruit a feeling of control over his own muscles—self-confidence that makes gymnastic and athletic exercises of benefit in developing morale. This is much more true in the dismounted service, as in the mounted service the practice of equitation is fully as good for the purpose and has the advantage of keeping the man and horse more in communion, thus developing mutual confidence.

Again we come back to the fact that morale begins in childhood, for exercises in athletics or horsemanship are of much greater and more lasting value when their practice was begun in childhood. In the practice of either, the child gets a certain amount of buffeting that serves to make him in after life feel more or less joy in privations and knocks that he would otherwise regard as terrible hardships.

Night marches will be necessary in war. Perhaps our men will not see an enemy behind every bush if they have had a few night marches in time of peace.

Similarly, the noise of blank cartridges, especially artillery fire, in maneuvers in time of peace serves to accustom the men and officers to giving and receiving orders in hubbub and turmoil that, while it is not as great as in war, is, nevertheless, similar to it. It is easier to write clear orders at your desk than to give them on the battlefield.

In modern combats the supervision of officers is more difficult than formerly. Yet we can see that team play is necessary to win. This team play under such adverse conditions can be secured only when the men are instructed and also when they have a

certain uniformity of mental characteristics. Man is still the essential weapon and his character does not change. Uniformity of action and confidence cannot be improvised. They are born only of mutual confidence based on a mutual knowledge of what constitutes honorable action, what makes united action, from whence comes a feeling of strength which gives courage to face and morale to surmount danger. Courage, which is the domination of will over instinct, makes victory or defeat.

The element above all others which makes the combatant capable of obedience and susceptible to direction in action is discipline, which is his confidence in and respect for his chief and confidence in his comrades; his fear that they will reproach him; his spirit of emulation, that makes him wish to go as far as the others and show no more fear; his *esprit de corps*—in a word, organization alone gives these qualities.

A surveillance which cannot be escaped ought to guarantee brave and concerted action among the men. To guarantee this, the surveillance must be of each man by his neighbor. Where the adjoining men all know each other, where they come from the same town and write to each other's friends, this surveillance of each man by his comrades furnishes a strong incentive against skulking.

During the War of 1866, Prince Frederic Charles permitted friends and relatives to be placed in the same squad, irrespective of height. A company formed in this fashion would not look so well on parade, but it could be expected to give a better account of itself in battle.—BALCK.

In former times a man could not fall down from a wound that was invisible from the outside. It was easier then to detect skulkers. DuPicq recommends

the practice of calling the roll at every respite in the action, both in maneuvers and war, as a powerful deterrent to skulking—in maneuvers, to accustom the men to expect it and the officers to order it. In battle the benefit is evident, but it is likely to be forgotten. If such roll calls are habitually made, the skulker will know that his chance of manufacturing a plausible explanation of his absence will be small. The only excuse that could be accepted would be a note from an officer of another company to the effect that so-and-so had joined his company, stating he was lost, and that he had comported himself well while with the other organization.

The Examples of the Leader

So long as one goes forward, neither officers nor men become disturbed if they are directed; but be the combat a little warm, they should see their chief and know that he is near; though he may be without initiative, incapable of giving an order, it makes no difference.

Be this understood: Thrown in the middle of destruction in the chaos of combat, man is completely lost. Instinctively he turns to his chief. If the chief be new, still by definition the soldier knows that he is superior in knowledge by reason of studies of war. It is then for the chief to justify this by personal example.

The field service regulations (French) say:

“The officers’ grades should be well permeated with the idea that their first and greatest mission consists of giving an example to their troops. Nowhere is the soldier more obedient and more devoted than in battle. His eyes are constantly fixed on his chiefs. Their bravery and coolness will pass into his

soul; they render him capable of all exertion and all sacrifice."

The new German regulations (paragraph 266) say: "The officer is the model for his troops. His example leads them forward, maintains among them the strictest discipline, leads them to victory among the greatest difficulties at the price of the most severe losses. He should be the faithful guide to his men, partaking of their joys, sorrows and privations, and thus gain their absolute confidence."

The officer should harden himself and prepare himself, by a severe personal education in time of peace, for his high mission in time of war.

Then *in a group* of men emotion predominates, the faculty of judgment diminishes and instinct develops. The latter is manifested by an unreasoning tendency to imitation.

Thus example has a supreme importance. It can lead to enthusiasm or to panic. The soldiers deployed as skirmishers, instead of in lines of battle as formerly, are not so much in hand, and hence it is indispensable that the leaders give the example continuously.

The officer should overcome his impression of fear and hold to his coolness. It is of prime importance that he give the example of calmness under fire. He should have the energy and the strength of will to be obeyed, which, by suggestion, forces immediate obedience. This force of suggestion is the possession of strong character, of unconquerable wills. By virtue of their commission, officers should possess these qualities; nevertheless, they will not be exempt from the emotions of the struggle. They will also find a powerful stimulant in their sense of honor; by the comprehension of the height of their mission they will more easily conquer instinct.

First Impressions in Battle

“It is difficult to depict in words the impression made upon an inexperienced man by battle. The first projectile bursting alongside, or the first bullet hurtling past, awakens such varied feelings and impressions.

“It is of the greatest importance to take oneself well in hand during the first moments of the fight. A great support is found in the consciousness of the thousands of soldiers’ eyes studying one’s first steps, and that the authorities likewise examine the ‘new man.’ The soldiers look especially intently at the new commander and form their judgment of him on the spot (a very critical judgment). On the other hand, the newness of one’s impressions helps to drown the inner voice apprising one of surrounding danger.

“Modern rifle fire produces a strong impression; the air seems to be literally filled with bullets; their plaintive whistling pervades the atmosphere like a continuous moan—above, below, and everywhere.

“As soon as the first shot is heard the soldiers grow serious, take off their caps and cross themselves; all jokes and conversation cease. At the given order all march bravely as during maneuvers.

“The courage and calmness with which the soldiers go into battle produce a strong impression.

“The infantry soon grows accustomed to rifle fire, but the artillery fire, especially the shells, produces a decided impression. It seems to me that this is not due so much to the losses inflicted by artillery as to the ear-splitting noise produced by the explosion of the projectiles. The effect is produced only on the ear, but it is strong. The Shimose shells have a specially powerful effect upon the inexperienced, and the shrapnel upon those unaccustomed to battle.

The young soldiers throw themselves face downward at each bursting of a shell. Thus the infantry, which suffers most from rifle fire, pays least attention to it; the artillerymen, on the contrary, are much impressed by rifle fire. This may be explained by the fact that the men are accustomed to their own arm.

“At the firing of the first shot the center of gravity is brought to rest on the officer, and it is then that is manifested his true rôle and the enormous responsibility that rests on him.”—SOLOVIEV.

The more the conditions of combat are punishing, the struggle bloody, the losses considerable, the more fatigue and tension of nerves are crying out for relief, the grander becomes the officer's rôle.

The resulting action of his men depends entirely on the company commander. One might say that war of the present time is the war of company commanders¹. All ocular testimony to actual combat confirms this view. The soldiers observe their officers with incessant attention. It is on his knowledge, his energy, his personal bravery, that all their existences depend. “It is from his attitude that the men judge of the situation, of the greater or less peril or the greater or less success of failure.”—SOLOVIEV. The authority of the officer can raise itself high or fall very low.

In war the officer himself will most often not have been under fire. He will be astonished on reaching the field of battle, but his previous military education, the studies he has made, the subjects he has thought about, all should exercise on his mind such an influence that the events which are taking place before his eyes have the appearance of having

¹See DuPicq, page 51. “Cæsar lost in this battle 200 men, of whom thirty were centurians”—i. e., 15 per cent were company commanders.

been seen before, and that the measures to be taken seem natural enough for him to prescribe them without precipitation and almost without emotion.

And if, besides, he gives proof at the desired moment of that reasoning bravery and coolness which is the true triumph of will over instinct, one may be certain that he will have the confidence of his men and that all will follow him wherever he leads.

Punishment

I would have nothing more to say on this subject if we had to lead only brave and honest men. Unfortunately, as we have seen, one finds in all armies a certain percentage of cowards—weak perhaps—but whose pernicious examples will be felt by the rest unless we take care. These are the men that start panics.

There remains for them a last means, of which I would have liked not to speak, but it is necessary to do so—I mean punishment.

The Regulations give officers terrible but necessary rights in this respect.

About discipline Soloviev says: "In combat, the officer must be more than ever a chief, a leader, and the discipline must be of iron. Never does the need of discipline manifest itself so much as in combat. Woe to the unit, which, in time of peace, has been only slightly imbued with the spirit of discipline! In war it will pay dearly for it."

Should measures of discipline be preventive? Must one warn the men before battle that punishment will follow cowardice? Certainly, yes. You say, "Our men do not like to work under threats." It is true. Nevertheless, but tactfully, though energetically, one should remind them of the coercive

measures which may be adopted. The good soldier will know to whom such threats are addressed.

"It is necessary to warn the men," says Bugeaud, "against cries of alarm in rear of ranks, such as 'Save himself who can,' 'We are cut off,' etc. They should be warned that file closers and battle police have orders to run the sword through the hostile emissaries or bad soldiers who give out such cries of alarm."

I cite this anecdote: "Turning toward the column, the colonel said: 'Major, march in rear as support; the grenadiers are incapable of running away, but, if they do, fire on them and on me.'"

On the same order of ideas, it is said that the Japanese turned machine gun and artillery fire into an assaulting column which had suddenly retreated in a panic.

On June 10, 1871, General Chanzy gave the following order: "Each army corps will have its rear guarded by cavalry, who will gather up fugitives and arrest stragglers. These fugitives will be taken back to their places and held on the front firing line. They will be shot if they try to run away."

Let us hope that we shall not need to make use of this method, but let us be ready to make an example on occasion that will calm hesitation and often avoid a panic more terrible in its consequences than the death of a coward or two.

Finally, above all other means, is the popularity of the war. The last war was not so in Russia, where few understood what it was about. With us that can never be. Our democratic regime forbids to us all such wars of conquest; it is, then, only grave insults to our national honor or our interests that will lead us to shed blood. In such case the war

will be popular, and conviction of the justice of the cause, anchored in the minds of the combatants, will be not the least lever to support moral force.

Opening of Fire

Of all the incidents of modern combat, writes Maurice, the one that is the most difficult to conceive is the intense need of the simple fact of firing which seizes man almost like a catalepsy.

It is, however, not difficult to conceive. "To fight at a distance is natural to man; from ancient times, all man's ingenuity has been devoted to obtaining this result."

Napoleon said, "The instinct of every man is not to let himself be killed without defending himself." And, in fact, man in the fight is a being in whom the instinct of self-preservation, at certain moments, dominates all the sentiments. Discipline has for its end to dominate this instinct by a greater fear—that of shame or of punishment; but this result can never be absolutely attained; it can be reached only to a certain point, that cannot be passed. This point reached, the soldier must fire or he will run either forward or back. "Fire is then, so to speak, the safety valve of emotion."—DUPICQ.

This leads us to long distance fire. Is long distance fire necessary? It is against the interests of the firers to suppress the losses which they can, *or believe they can*, inflict on their adversaries, by firing during all this time, if the supply of ammunition permits; so, in spite of all that is said or done, the men have always fired at great distances.

Thus, if one does not make the soldier fire, he will fire himself, in order to distract his attention and to forget danger. The fire of Frederick's Prus-

sians had no other object; Marshall Saxe had well divined this fact. "The quickness with which the Prussians charge their guns," he tells us, "is advantageous because it occupies the soldier and prevents reflection while he is in the presence of the enemy. It is error to believe that the last five victories that the nation gained in the last war are due to their fire, since it has been noticed that in the greater part of these actions there were more Prussians than of their adversaries killed by rifle fire."

It is not always the conqueror who kills the most people; the victory is to the one that gains the ascendent morale. At Trautenau in 1866, the Prussians, who were slightly superior in numbers, were defeated with a loss of $3\frac{1}{2}$ per cent; the Austrian loss was 15 per cent. One should not count on the coolness of the men; and, as it is necessary above all to guard the morale, *one must try to occupy them and to divert them*; one means of doing so is to have them fire; the effect produced is of no importance, and it will be perfectly absurd—impossible, furthermore—to require of them sufficient coolness to fire only at long intervals, to set their sights carefully and to watch attentively. These words of DuPicq are confirmed by Soloviev (page 111), who says: "The conduct of fire (fire control) in battle is a very difficult thing. The men strive to open fire immediately on taking up their position, even without awaiting orders to fire, designation of the objective, range or kind of fire. This haste is, first of all, brought about by the desire of drowning the consciousness of danger through increased activity, yet this is what most impedes the effectiveness of fire, the maintenance of order in battle, and fire discipline."

It is then very difficult to determine the distance at which fire should be opened; it is a question of circumstances.

So long as troops have not suffered losses, so long as the men have not seen their comrades fall and heard their cries, it seems as though they should have enough coolness to keep from firing, but as soon as death shall have commenced its work it will be necessary to "*open the safety valve of the emotions.*" To wish to continue the advance without doing so leads to panic.

Value of Battle Fire

"The soldiers have emotions—fear, even. The sentiment of duty, discipline, self-esteem, example of officers, and above all, coolness, maintains them and keeps back the fear of becoming frightened. Their emotion does not permit them to see clearly, to more than partly adjust their sights, when they do not really fire in the air.

"The rifle, like the cannon, keeps power, the faculty of adjusting sights, but the agitation of the heart and nervous system is opposed to the immobility of the arms in the hands; the arm, being supported, takes part always in the trembling of the man. The latter is in haste to launch the shot that will stop the ball destined for him before it can leave the enemy's gun. And, for fear the enemy will fire first, this vague sort of reasoning, though actually never formulated in the soldier's mind, still leads him to fire without even bringing the gun to his shoulder."—DUPICQ.

General Trochu says: "From my experience, I am convinced that troops in the firing line, under the emotions of battle, never adjust sights, no matter how good the troops. They fire to the front hur-

riedly, many of them hardly bringing the gun to the shoulder."

General DeNegrier says: "Of 100 men who are under fire for the first time, 95 do not even see the end of their gun and fire very high." He had considerable war experience.

Under the influence of fear the pupil of the eye expands; the man tries to distinguish the point from which he thinks danger threatens; the eye is accommodated to the long distance with such intensity that it can but vaguely see nearby objects.

Of the 100 men, the five or six who remain cool see what they believe to be the point occupied by the enemy. Their bullets strike within a zone of 150 or 200 yards—provided the range is correct. The others fire at all kinds of angles. Their bullets go everywhere, but principally in a zone from 2,700 yards up.

"The proportion of five men out of 100 who remain cool may seem extraordinary to those who have never engaged in a large battle, being themselves on the firing line. *It is nevertheless not exaggerated, and is sensibly the same in all armies.*"—DENEGRIER.

At Gettysburg 24,000 loaded rifles were found abandoned on the field of battle; of these 25 per cent were loaded properly, 50 per cent contained two charges; the remainder had from three to six charges—one had twenty-two charges.

"*A Summer Night's Dream*" says of the battle of Gravelotte:

"We were opposite to and about 500 paces from an extended position of the enemy, and under a brisk fire. My entire company had by this time been necessarily extended. With dismay I marked the growing uneasiness of my men without being able to

do anything to stop it. Everyone was lying down and firing. I could see rifles whose stocks never left the earth. The upward direction of the muzzles was particularly noticeable at one part of the line. On looking closer, I could see that there was a little rise in the ground in front which prevented the men from seeing the enemy. This did not, however, stop the men in question from firing away as hotly as the others, and sending all their bullets over the rise into space. To my great astonishment I saw among these madmen Lance Corporal Arnold. Full of anger, I rushed at him, seized him by the shoulder, and shouted: 'What are you shooting at? You can't see the enemy!' Not feeling certain that amidst the noise he understood my words, I accompanied them with lively and unmistakable gestures. Arnold looked around, but his gaze was vacant. Clearly, he did not recognize his own captain. Then, hearing a few shots whistle close by us, he flopped down again, to fire harder than ever. My anger got the better of me. I hit him with my sword so hard over the helmet as to make a great dent in it and to knock it off his head in spite of the chin chain. This had an effect. The man sprang onto his knee as if struck by lightning. His face was deadly pale, and every limb was quivering. I could not understand what he said, but from his face I saw that he now recognized me. Never shall I forget his look, partly pleading, partly reproachful, like the look in a stag's eye when the hunter approaches to cut its throat. He fell down again in a heap, as though crushed, his eyes staring at the ground. This, however, lasted only an instant. He jumped up quickly, grasped the arms of the men nearest him, and encouraged them to advance with him to the place I had indicated. As his comrades did not understand

him at once, he crept forward alone, and although endangered by the wild fire of the men who remained behind, commenced a steady, well-aimed fire from the rising ground. After having, with trouble and by forcible means, induced the other men to move up to where Arnold was, I went off to the other flank of the company. I never saw Arnold again; he fell in this fight."

This is the way it is necessary to study psychic phenomena and learn their bearing on war.

Quotations From Various Authors on the Subject

"All violent emotion automatically dilates the pupil of the eye."—BOISSONNET. The opening then becomes too large and admits too much light; thus the vision becomes shadowy and deformed. The man sees as in a fog, his will being totally unable to rectify the pupil; this physical defect of emotion does not depend on the will. In this condition it is impossible to estimate the distances correctly, possibly even to read the numbers on the sight leaf. Under these circumstances, the brain being as befogged as the sight, it is nearly impossible for a commander to attract the attention of his men. Strong emotions command the attention and are not commanded by it. A strong image masks all others. In a word, the direction of the attention is then involuntary.

"The dominant thing at this moment is the enemy who is firing at one; he turns the attention entirely from the chief in rear who is trying to give commands."—BLONDUS.

"The psycho-physiological troubles which are produced in the presence of danger habitually take

the form of paleness or of trembling. If you wish more precise indications of the effect of fear from the physiological point of view, I will add:

“1. Enervation of the voluntary muscles, trembling, stoppages in movements (*i.e.*, undecided movements) which constantly become uncertain and feeble.

“2. Stoppage of breath, oppression, rising of the gorge, from which involuntary oscillations result; the man losing mastery of his organism.

“3. Finally, there is spasmodic contractions of the blood vessels, causing paleness, collection of blood in the heart and dilation of the pupil.

“The irrigation of the brain cells being modified, man is affected in his intellectual faculties; association of ideas no longer takes place; his power of attention and judgment is diminished; the pupil of the eye is dilated, it no longer sees the sights clearly. He sees only the sight stud—even sees only the end of the muzzle; he can no longer tell just which.

“Man, dominated by emotion on the field of battle, fires precipitately, does not use his sights, sights with the end of the gun or fires from the hip. If the emotion becomes intense, under the action of the instinct of self-preservation, he fires anywhere, so long as he keeps firing; his bullets go in the sky or in the ground a few paces away; he fires, whatever be the orders of the chief that he no longer consciously sees or hears; he fires after the enemy has disappeared from his front, and even fires on his comrades to the rear.

“This is the fire of war.

“I have wished to make a complete picture, perhaps even exaggerated, in order to show fully its characteristics. But do not doubt that it will pre-

sent itself on our battlefields to a considerable degree, and that no one is free from it.”—DAUDIGNAC.

Conduct of Fire

After the above, one may doubt whether battle fire can be directed.

“A man under fire has the impression as quick as thought that he is specially and personally seen—that they are after him. It is the logical reaction of the sensation of danger on an organism deprived of the faculty of thought. The observation is, moreover, well enough known and proved by experience. Under the influence of this feeling man tries to kill so he will not be killed, and it is one of the most powerful motives of the combatant. From this it results that he will necessarily fire, and, whatever happens, he will fire on the ones whom he believes are firing at him—that is, on those clearly in front of him; this conviction that it is those seen, and no others, which menace him, being the direct consequence of a series of unreasoning impulses, will present themselves to his mind as evidence. The man himself will not often choose his objective—the objective will be imposed on him. One sees how unreasonable it will be to count on always being able to direct his fire on any point one chooses.”—GRAND-MAISON.

Let us not expect, under a hot fire, to be able to use fire with counted cartridges or volley fire. Only when the firer is himself not in danger will telescopic sights and all the other paraphernalia of the target range be of any value.

Only against an inferior enemy (like savage tribes), where the soldier feels himself safe, will it be

possible to use a knowledge of probable percentage of hits, split ranges or range finders.

"The efficiency of fire in time of war reposes above all else in the morale of the combatants."—

DAUDIGNAC.

Absorbed, as the commanders will be, in leading their men, they will have little chance to sanely appreciate all the conditions that are necessarily taken account of in range firing. He will have all his faculties engaged in solving the tactical problem and the problem of leading his men, without going into the direction or intensity of wind, the direction of light, the temperature, the barometer, or even the use of the range finder. Instead he will be seeing that his men keep some kind of formation, choosing the time for advancing, pushing the men forward, trying to keep control of the opening and cessation of fire, and, above all, in watching the enemy.

Will he then always be in a state to transmit more precise directions? Most often he will be lying among his men, or squatted behind the same shelter, in the tumult of the combat. His orders, which must be passed down the line from mouth to mouth, must be limited to the very simplest, such as "Forward"—"Commence firing"—"Lie down."

How can fire discipline be obtained? It will be physically and psychologically impossible to open and cease firing by command. We must admit, on the contrary, it may be utterly impossible to stop the firing when the men are under fire and believe it possible to hit the ones that are firing at them.

We must then seek a practical method to employ for opening and ceasing fire.

"Collective discipline, which lies almost entirely in indirect methods, relates much more to the conduct of troops than to the conduct of fire.

“It is necessary to demand only possible things; it leads to bad discipline to teach men, in time of peace, things which cannot be executed in combat.”

Our firing regulations, which require the use of a battle sight which shoots from twenty to thirty inches high between 200 and 500 yards, are psychologically wrong. All practical experience in war proves they are wrong. At those ranges men under fire always shoot high. Then why, in time of peace, try to teach them to hold below the target—something that we know they will not do in battle? For target practice, all sights, battle sights or others, should be so arranged that, to hit, the soldier must hold on the lower line of the object he expects to reach; but to expect him in battle to estimate twenty to thirty inches below his target and aim off the target is to expect the impossible.

We admit the following facts: When a man is under fire, he can be kept from returning the fire only by being placed in such a position that to return the fire is impossible, or at least very difficult.

“Under heavy fire the firing can be stopped only by making the men sink down behind shelter. This takes advantage of the instinct of self-preservation. If the morale permits, the fire can also be stopped by starting an advance.”—GRANDMAISON.

Against these views of the effect of fire, you may urge that still it is the rifle bullet that does the execution in war. (In the Russo-Japanese War, 85 per cent of all wounds were caused by rifle bullets.) That is true; but the bullets that take effect mostly do so by chance, not by the good aim of the firer; it is the shower of bullets that kills, as is shown by the frightful consumption of ammunition in that war.

Captain Soloviev says (Soloviev, page 14) :

“The fact is that the long range at which fire is opened, the entire *mise en scene* of modern warfare, when the enemy is often positively invisible, forces one to have recourse to intensity of fire to shower a rain of bullets on a certain area.”

But finally, you tell me, if we admit these facts—and it is necessary to admit them—from the testimony of those who know them to be so, is it necessary to conclude that it is useless to have instruction in target firing and fire control? On the contrary, we should insist on that instruction, to give the men confidence in themselves and in their weapon.

The soldier must have both arms and morale. Lacking either, the other will not suffice, but it is as useless to teach dependence on the arm without regard to morale as it would be to keep up the morale and have no arms. In fact, the possession of a good arm which is understood by handling helps to greatly raise the morale. That is to be the final result to be gained by instruction firing—the giving of a feeling of confidence to the troops.

Psychological and Tactical Theory of the Decisive Attack

Now I come to the assault. After the war in the Transvaal, where the bayonet was little employed—one knows why—that weapon fell into disfavor. The theoretical believers in fire exulted, and the United States came even to suppress the real bayonet (which, after the Russo-Japanese War, was reëstablished). In effect, that war has proved that more than ever assaults are necessary and possible with good troops.

It has always been necessary to go in person, in flesh and blood, and to go after his hide and occupy the place of the other fellow before his opinion will change and he will acknowledge himself beaten. It is still the same today. Nothing is decided by fire alone.

The bayonet alone marks a determination to go to the end. It proclaims the necessary understanding of the situation. It states the distance at which the enemy must be met in order to accomplish the task.

Let us now examine the state of mind—the morale—of the defenders of a position.

In place for hours—for several days, perhaps—their passive attitude has only convinced them of their inferiority. They have suffered all the emotions of the preparatory combat; volleys of infantry, machine gun fire, shrapnel—nothing has been spared them. Their loss is not much, perhaps, but their morale is considerably lowered.

The short bursts of regulated fire, even if inefficient against a masked object, are absolutely depressing.

DeWet, in his "*Memoirs*," tells us that on two different occasions his burghers ran away under the fire of artillery without having lost a single man. A combat is entirely an affair of morale.

The wounded must most often remain a long time where they fall, it being impossible to remove them under fire, and their presence will only increase skulkers.

Further, the man realizes perfectly that the nervous trembling which he is unable to overcome is disarranging his aim, and that his bullets cannot hit the adversary who, step by step, is approaching him,

bayonet already fixed, in order to make him feel what is coming to him if he waits. And that is precisely the reason why attacks succeed.

(See "*Tactics*"—BALCK, Vol. I, page 87.)

At Nicholson's Neck, in 1900, the Boers crawled forward firing. The defenders fired also, but, while a storm of bullets swept over them, they could see the Boers getting nearer and ever nearer. The psychological effect of this uncanny crawling advance was so great that by the time the Boers were within 300 yards the British soldiers were individually showing white handkerchiefs. The Boers feared a trap and continued the attack. Soon the white handkerchiefs were almost universal. When the Boers came up to them many of the British soldiers were weeping and their officers laid the trouble to the constant advance in the crawling line, against which the British fire *seemed* to have no effect.

At Chattanooga the Confederate soldiers left what their officers thought to be an impregnable position because of the moral effect of *seeing* Thomas' masses advancing toward them. (See Alexander.)

"Whoever has made war and observed the events of combat knows that at some distance from the enemy losses are heavy, but by the time you are ready to charge they are so small as to be negligible." This is easily understood. If the enemy opens fire at some distance (say, 800 yards), at 200 yards his fire has lost some of its intensity (some men out of ammunition—wounded—skulkers). The approach of the assailant lowers the morale: he presses forward, firing with the evident intent to charge; the enemy has not lowered his sights as the enemy advanced—probably he is not using his sights at all—and his aim grows worse and worse.

To show that this has always been so, I will give a quotation:

“At the battle of Belgrade, in 1717, I saw two battalions, at thirty paces distance, lie down and fire into a body of Turks who tore them to pieces. Only two or three soldiers escaped. The Turks had thirty-two killed.

“Before the force of the assailant’s moral impulsion, the defender’s troops are disturbed, fire in the air and disperse immediately before the assailant, who is emboldened by this ineffective fire to rush forward before a second volley can be delivered.”—
DUPICQ.

This shows us the grave risk of adopting a defensive attitude.

Let us pass back to the side of the attack. After what I have just said, you will not be astonished that experience has shown that nine times out of ten the defender does not even wait for the assailant, and that the tenth time he is torn in pieces (if he has not taken the precaution to organize a counter attack).

Then should a charge alone, unprepared by fire, succeed? Alas! No. In spite of all the chances of success which we have just enumerated, man is slow to comprehend that he can conquer by running straight into bullets. Thus it is that at the moment of the decisive attack the struggle between the instinct of the men and will of the chief becomes more intense.

Our battalion is 100 paces from the enemy. What is going to happen? This, and one has never seen and never will see with the gun anything else: If the battalion marches resolutely, if it is in good order, it is a bet of ten to one that the enemy has already gone; but what if the enemy holds? Then the man of our day, unarmored against iron or lead,

no longer retains his self-possession; the instinct of self-preservation takes command entirely. There are two means of avoiding the danger, not of the best: to run or rush. We rush. Well! If the distance is small, the time of exposure short, still instinct shows itself. We rush. * * * But the greater part rush with prudence, with after-thought; better let the most rash and intrepid pass to the front, and thus it is singular, but absolutely true, that we are at the least in broken ranks as we approach the scrimmage, and good-bye to the theory of the thrust; and if the head is stopped, those who are in the rear allow themselves to fall sooner than to push; and if, however, they do push forward, they allow themselves to fall sooner than to advance. It is not to be disputed; it is so.”—DUPICQ.

“The Gauls and the Greeks believed in the power of mass—that those behind pushed forward the front ranks. They would not believe that the rear ranks are powerless to push forward the front rank when it recoils from danger—from death. Strange error! Believing that the rear ranks are going to go forward in face of what makes the front rank recoil, while the contagion of recoil is so great that, the head stopped, those in rear retreat.”—DUPICQ.

It is not then in mass—in physical impulsions—that we can seek for success in assault.

It has been noticed that shock actions are very rare. Physical impulsions are in effect nothing; the sentiment of moral impulsions that animates the attacker is all. The sentiment of moral impulsions is the resolution which animates you, perceived by the enemy, and no one denies that this moral impulsions will be only so strong as one feels himself stronger than the enemy, whom he menaces with the most

men, from which the column of attack is stronger than deployed men.

Still it is necessary to understand what column here means, for the term "column" does not mean a column of maneuver, but of more troops disposed in depth of formation and with variable distances. We will try to understand this. Behind the firing line, which has reached assaulting distance, the supports are approaching. The first line of the supports should be deployed in the sense of being in groups, according to the ground, behind the firing line. It may be said that two deployed lines, one behind the other, constitutes a vulnerable objective; true, but the true difficulty of our task in time of peace results from the obligation—if we wish to make useless work for ourselves—of subordinating even to details the technical elements to the psychological, so much harder to determine, and on which it is impossible to directly experiment.

The fact, for example, of avoiding material losses is only one means, and the end of utilizing the ground is only to lead within striking distance men physically and morally capable of combat. The most proper formations to avoid loss will not always be most advantageous.

The reason for having supports in groups all along in rear of the firing line is to give the impression to *all* the men, who see new comrades arriving around them and to their right and left, that they have received a strong support of men coming to aid them. Besides this, the soldier must know that a *formed* support still further back is ready to intervene to his assistance at the most critical moment of the attack.

Reason and experience are in accord. A few men here and there will never add the moral im-

pulsion needed for carrying forward the final assault—formed bodies must here join. Lines of smaller groups will carry forward the firing line from halt to halt, but only a formed line will carry it forward to the final assault. This last rush of the formed line cannot be over too great a distance, or it will be winded and will lie down on the firing line. So the assaulting troops must come up as far as possible under cover and then advance at quick time in line, under cover of the fire of the firing line, till they are within striking distance. Losses may be heavy, but should not be if the firing line has superiority of fire; besides greater losses can be borne by marching troops than by those in position.

Assaults should not be made on long fronts; the breaking of one point decides the struggle. It is then better to attack on a relatively short front and make sure of having sufficient depth of formation to carry it through.

The assault is not an act in which the chief launches all his men in one grand rush. It should be a premeditated act, well planned for. The difficulty is great, but, well organized, it should succeed.

The most important question for the commander will be when and where has he gained superiority of fire, so he can put in his reserves, for to loose the reserves is to give up his control of the battle.

Conclusion

“The weapon may change and with that the manner of using it, but the arm which employs it, the heart which animates that arm, remains eternally the same.”—DRAGONIEROFF.

The last war, the Russo-Japanese, confirms the view that armament and technique may change, but

man still remains the first tool of combat. As in all times, moral factors preserve a dominant importance.

"You should try to count all the weaknesses. They will not keep you from going into the fight with confidence, if you have taken the trouble to develop the morale of the soldier, to prepare his heart and his mind, even sometimes his arms and legs."—DAUDIGNAC.

If you have attached yourselves to your men, you will have gained their confidence; it will be born of the affection and interest which you have shown in them, the superior intelligence which you have shown them you possess, and the examples which you set them. Then you will see how it is that on active service the soldier adores and has confidence in his chief.

The rôle of leaders of men is above all to make them believe the faith for which they fight—give them a belief in the justness of their cause.

Can the spirit of good infantry be made by some months or years of drill? Let us say that the spirit of good infantry *is first of all given by the first moral education of the man*; it may depend on an ideal, on a fanaticism; *it is a function of the public spirit of the mass of the population.*¹

Infantry is nothing but the nation which feeds it; it is its faithful image. The nation is there reflected as in a mirror, showing its qualities, its faults, its passions.

¹"It is not material things alone that shape the future, not questions of organization, armament and tactics, however important they may be of themselves. The decisive factor in the future will always be the moral force and the martial spirit of the nation, based on the bodily and mental soundness of every individual member in it. The materialistic outlook, which gains ground with the growing wealth of the nation and which kills all ideals, calls for serious consideration."—*"Reorganization of the Prussian Army, 1807-12"*; in *Recent Publications*, October, 1910.

Has it been brought up from infancy with lessons of unity, of discipline in all degrees? Has it been cultivated by the state? Has it an ideal of loyalty and of patriotism?

It is in combat that we will find these qualities masters. Then that our infantry, placed between the instinct of self-preservation and the idea of duty, will go to victory and throw away all the encumbrances which it finds in its way as it strips for the fight.

The elbow-to-elbow fight no longer exists, and the soldier can no longer do his full duty if he simply possesses a sentiment of solidarity powerful enough to unite him to the other combatants, a sentiment that used to be reassuring in the hour of danger.

Collective education given by society is the only means which will assure to the army the cohesion necessary to march to victory. The task must be assumed by the mass of the people—in the home, the school, the workshop. The spirit of duty and discipline must be cultivated by the mass of the people, or it will not exist in the depths of the being.

Are our people doing it?

CAUSES
OF WAR

Causes of War

IN ANTIQUITY, we may say that combination of forces in order to make war was the first sign of dawning intelligence.

Primeval man fought as an individual. In an instinctive way he attacked anything he could eat or that ate the things that he needed for his own sustenance. The animals that could kill and eat him, he shunned or ran away from, when it was possible to do so, otherwise he fought in self-defense. Always he fought from fear or from necessity, sometimes fancied, but nevertheless real to him.

As intelligence grew, men learned that by combining their efforts they could overcome, where singly they would be vanquished. That was the beginning of war, which consists of combining all available force—natural, artificial and psychological—in order to obtain the ends we feel to be so necessary to us that we must obtain them in spite of the resistance of others whose interests clash with our own.

The ability to make war presupposes the ability to think—to act in concert. Animals can fight; they do not make war.

We know that considerable battles took place thousands of years before Christ. They have continued intermittently ever since, growing in size as a man's intelligence enabled him to make greater and greater combinations.

The great principles of division of labor and independence of function that have made our vast modern enterprises possible were first thought out

and perfected for use in war. To a preponderating extent the great mechanical improvements that have made the pronounced advances in the works of peace were also first thought out for war. The first shaped stone was a war hammer, the first ax was a war ax; the first use of metals was for weapons; and the invention of explosives was for the destruction of one's enemies. After the way had been opened through the necessities of war, all these things became of the greatest use in peace. When war has not directly been the cause of mechanical development, it has promptly made use of such development and, in using, has greatly improved upon each new idea.

Necessity is the mother of invention. When there is abundance to eat, to wear, and to make home comfortable, and no enemy threatens to do bodily harm, there is no spur to invention. The same necessity that breeds invention, breeds war. The desire to make the supply meet the demand that causes the attempt "to make two blades of grass grow where one grew before" is akin to, and arises from, the same feeling of need, as does the belief that the neighbor has more than his share and brings the determination to take it from him. Primitive man promptly attacked another who seemed to endanger the food supply. Civilized man first tries to increase the supply, but failing, he fights also. Reason says divide with the other, and both accept a share of the inevitable suffering; but instinct, older, stronger, deeper, says, "Take what you need and throw the suffering on the other." Hidden under much sophistry, much exterior change from the rough ways of primitive man, the man of today is still intrinsically the same and is driven by the same emotions as his uncivilized ancestors.

In each man there are two personalities, one, the man we see in everyday life—peaceful, generous, even benevolent—the man of intelligence, moved by reason; and the other, the man who comes into being in every crisis—the man of passion, hate and fury—the man whose actions are swayed by those deep-seated emotions that are deaf to reason, justice or humanity. Well could one of our divines, when the present European War broke out, exclaim, “Can it be that our religion has broken down in its psychology—that we have been addressing ourselves to a man that did not exist?”

In his benevolence, he had been addressing, not a man who does not exist, but the man that exists only when all is well. The man who exists in every crisis is a different being—the man of emotion. The other is the man of mind.

Those deep-seated emotions which sway the individual powerfully are independent of his reason and many times stronger. With people in the bulk—that is, with the crowd—these influences are much more powerful than with the individual. Why this is so, no man can tell; yet we know it to be true. Reason may dominate an individual; emotion always dominates the crowd.

Deep down in his being, these emotions influence man's acts just as they influenced those of his primeval ancestors. They are an inheritance from countless generations of primitive ancestors, and are older and more powerful than education, intelligence or judgment and independent of them.

There is an old saying: “Scratch a Russian and find a Tartar.” Well may we amplify it and say: “Scratch a civilized man and find a savage.” Civilization is but skin deep. When the crisis comes, all

the outer veneer of civilization is stripped off, and down deep in his being man is responsive only to his emotions.

Of all the emotions, fear was the first, the strongest and the most unreasoning. It still remains the strongest influence that governs man's actions.

It was fear that made man first learn to use the club, the ax, the gun. Fear of bodily harm was early in man's existence joined by another great dread: that of starvation. There were times of abundance and times of want. Man began to hoard of what he had in times of plenty, in order to meet his needs in those future times, when, he feared, the supply might be less abundant. Fiercely he defended what had been stored up for the future. In times of famine, fiercely did the one without such a hoarded supply strive to wrest it from its owner. For numberless generations man fought to preserve things to supply his bodily needs. Today the shadowy remembrance of these primitive feelings exists somewhere deep down in his being. In fact, the form of their expression is less primitive, but nevertheless they continually exist, and are shown in the demand for personal liberty and the fierce economic competition. The dangers are less imminent, the struggle less intense, but they are constantly in evidence. Let the danger increase, the struggle become more intense, and at once these primitive emotions stand out clearly. Suddenly the passions and emotions of primitive man take command; savage instinct rules.

Before birth and during childhood man passes through all the successive stages of the development of early man. Below the exterior refinements that come with education and living under civilizing influences are hidden away those primitive charac-

teristics that came to man as a heritage from his ancestors. His dress, his manners, his customs—all exterior appearances change easily; but to change his essential characteristics, a strong force continuously acting in the same direction for many generations is necessary.

Early man's principal emotion was fear. Being an emotion, it cannot be reasoned about; when at all strong, it cannot be reasoned with. It is a sensation, an emotion—often unreasonable, always unreasoning. Beings incapable of reasoning are subject to fear. The most intelligent and most highly educated are also its subjects. Man may be guided by reason; he is driven by emotion.

How many people shed tears while watching a tragic scene in a play! There is no logical reason for these tears. Emotion forces them in spite of reason. We hate to admit even to ourselves that our reason is thus easily overcome by our emotions and produce plausible explanations for the acts which we commit under these hidden influences, but the truth is, that it takes comparatively little to arouse those emotions which cast out reason.

It is not alone the weak and the ignorant that yield to emotion. The most highly educated, the most intelligent, the clearest reasoners are equally affected.

There has been a perfect flood of articles justifying the course of one or the other of the contestants in the present great European War. These articles did not come from the ignorant or those of weak judgment, who without reason were led away by their emotions. They came from college professors, men of letters, scientists and others representing the best intelligence, education and reasoning

power of the world. Yet each, his views colored by his emotions, reasons to the end that clearly justifies his own side.

The German people, individually and as a whole, believe they are fighting desperately in *defense* of their rights, liberties—their very homes even. The allies feel just as strongly that the Germans wantonly attacked them. The best minds of both sides are submerged by emotion. You can talk culture, justice, philanthropy, humanity to the man of reason; the man of emotion knows none of these.

When the war is over, writers and historians, writing quietly in their studies, uninfluenced by the emotion of the conflict, will point out reasons that never existed. They will point out aggression, vanity, pride, desire for self-aggrandizement or hope of political reward as the motive for acts that were prompted solely by patriotic fear for the country.

Man in the bulk—the body politics, the crowd—is much more subject to these psychological influences than is the individual by himself. Such phenomena are much more noticeable in sudden outbreaks; but they may be just as strong and endure, even growing intensity, for weeks, years or generations. They are not usually well defined, being overlaid by more noticeable superficialities, and for that reason are not well understood.

Back in the inner being they may all be traced to fear—that panic of fear that strikes blindly but savagely at anything or anybody that appears to oppose it.

Under different aspects, we may discuss this vague, shadowy fear that brings out man's emotions and inspires his acts now, just as, for, numberless generations, it has been the source of the acts of his ancestors.

These aspects are :

Fear of bodily harm—now most evident as a desire for liberty.

Fear of the unknown—now evidenced as religious antagonism and race antipathy.

Fear of starvation—the milder evidences of which are now appearing to the world under the name of economic pressure.

Liberty

In the earliest times the defeated in any struggle were killed ; later only some were killed, the remainder being held in bondage ; and still later they were held in bondage only in that they were required to conform to the will of the victor in certain regards and to pay him tribute. The last, in a slightly modified form, continues till this day to be the lot of the vanquished.

The fear of being killed, the fear of being enslaved and the fear of political subjection are all of the same kind, and are all but a form of the first and strongest of man's emotions. The desire for political liberty is but a form of the desire for personal liberty.

The wonderful progress of the last 400 years followed the great enlargement of the known area habitable by man, resulting from the geographical discoveries at the end of the 15th century, together with the great mechanical inventions that began to be introduced, beginning at about the same time. Together these made life easier for man than had ever before been the case. It is to be noted that they were coincident with the growth of liberty, both personal and political.

From the earliest times slaves had been employed to do the hardest work. They cut and moved the stone for all the huge monuments of ancient

peoples, made the bricks and dug the canals for Egypt and Babylon, and rowed the galleys for Phœnicia, Greece and Rome. They were the great machines of ancient civilizations.

Man takes pride in the great moral advance that caused him to free the slaves. But note well that this great moral advance did not take place till invention had produced machines that accomplished the work of slaves more quickly, cheaply and efficiently than human labor could do. Note also that slavery continued longest where the main industry was one in which machines could not replace human labor.

Machinery is still no great aid in growing cotton, sugar and rice. Where these were the main source of income slavery continued the longest.

The man who had no need for slaves himself could see the injustice and moral degradation of slavery and agitated for its suppression. Not so the man who used slaves as the other used machines.

Less than 60 years ago eminent divines in these United States preached eloquent sermons to prove the righteousness of slavery. They were not dishonest. They believed what they preached. The community in which they lived found slaves necessary. The crowd mind was more powerful and less analytical than the individual mind. The individual mind of the clergyman was submerged in the mind of the crowd. Such has always been the case. Such will always be the case. The absurdities of the collective mind are proverbial, but its power is, nevertheless, paramount.

The great discoveries and inventions which made the world's supply abundant caused human slavery to become economically unprofitable and made possible the greatest advance in human liberty

since history began. These same discoveries and inventions, having opened to the world an abundant supply, made it easier for the individual man to obtain an existence and in the same way made political liberty possible.

In times of plenty the vast majority are humane and benevolent. It is when the pinch bears on the community that hate, cruelty and disregard of the rights of others are in evidence in the crowd mind. It is then that the unreasoning emotions hold sway; then that man's reason, overcome by the stronger psychological influence that emanates from the crowd, governs neither his acts nor his words.

Under the influence of his emotions he will utter words to justify his acts. These he calls reasons, but in times of stress they bear the impress of his emotions.

Released from fear, man is a great consumer, his perspective is different, his desires grow, his ambitions know no limits. He takes more and more for himself. As we say, his standard of living rises. This is all to be commended, but it soon brings the demand up to the available supply. The slave consumed less than his master; the man on whose time and means all kinds of unjust exactions were made consumed less than does the man blessed with political liberty; the subject nation consumes less per head than does the free nation.

Some leaders of the workingman preach that everyone deserves and should have all the comforts of the man who receives \$5,000 per annum. This is true enough, but where is the supply to come from? Take a few of the richer nations and see whether or not it is possible.

The latest available estimates give the total wealth per inhabitant as follows:

United States -----	\$1,300	per inhabitant
France -----	1,600	" "
Germany -----	900	" "
Great Britain -----	1,700	per inhabitant
Belgium -----	1,200	" "
Russian Empire -----	240	" "
Austro-Hungary -----	500	" "

Assuming that each bread-winner supports a family of five, it is readily seen that, if the whole of the richest nation had the comforts of the man with an income of \$5,000, it would consume the total available wealth of the country in one year and eight months. For the whole world to have these comforts would consume the world's available wealth in two or three months.

Man confronted with starvation, knows nothing of benevolence or humanity. A few select individuals may retain some of these inspirations for a time, but man in the mass will not do so.

In such times the strong deprives the weak of his goods, his liberty, even of his life. In extremity he has even been known to kill the weaker and eat him. Conditions make the character of the man. Civilized men, reduced to extremity by misfortune in Polar expeditions or shipwreck, have, in the most recent times, committed these unthinkable acts. Man is still a savage in his innermost being. The men that you and I know can be reduced by sufficient pressure to these acts of inhumanity. It is only a question of how much of the veneer of civilization is knocked off. The amount of personal and political liberty in any community is dependent on the available resources of that community.

Man is by nature conservative and slow to change. This conservatism delays the giving of liberty after it becomes possible. It also delays the suppression of liberties till the internal stress is un-

bearable and the necessity forces it. Then the weakest member of the structure yields.

When the community is weaker than its bonds, internal compression results; we have strikes, mobs, and revolutions, till, after a time, the readjustment is accomplished.

When the reverse is the case, natural or political boundaries are forced and the community spreads out. That another owns the land to which they spread makes no difference—the owner will be driven out at the point of the bayonet if necessary. When the internal pressure is great enough the community will spread out, and will use the necessary force to enable it to do so.

Religious Antagonism and Race Antipathy

From the earliest times, man has feared the unknown, whether peoples, regions or forces.

Growing intelligence discovered the reasons for many things and sought to explain those it could not fully understand. The explanation in all races was, that there existed some supernatural agency that was very powerful; and man's egoism made him believe that these powerful supernatural agencies took some special interest in him. Always awed by things he can not understand, he came to worship these agencies.

Most primitive peoples worshipped directly the things they feared or hoped to propitiate—the sun, the wind, the rivers, etc.

As races became less primitive, they began to understand natural forces to a greater extent; and, failing to find an explanation of the unknown in the action of these forces, they came to believe in in-

visible supernatural beings that controlled both natural forces and human destinies. So, we can very well gauge a race's development at any period by the religious beliefs it held at that time.

All religions contain an element of that most primitive emotion, fear; in fact, "Religion essentially consists of man's apprehension of his relation to an invisible power of powers, able to influence his destiny, to which he is necessarily subject, together with feelings, desires and actions which this apprehension calls forth."¹

In connection with our subject it is not necessary to consider any particular creed, but rather the points that apply equally to all religions and all creeds.

Part, at least, of the influence that creates belief in any religion is fear; which is an emotion. All creeds have their greatest increase in numbers from children. The child's reasoning powers are immature, but his emotional nature is fully developed. It is for this reason that it is easier to lead a child than a grown person into belief. In grown people, religious belief is usually brought about during a violent disturbance of the emotions. In all cases, religious belief is emotional in its origin. The adherent to any creed believes "in his heart" not with his head. "Reason is capable of transforming men's convictions."² "The enthusiast who is dominated by an idea, religious or otherwise, is incapable of reasoning, however intelligent he may be."²

Any person can tell from his own experience that it was not logic, but the emotions that welled up inside his being, that caused him to believe. It was not logic, but strong emotion, that sustained the

¹Library of Original Sources.

²LeBon.

martyr at the stake. This is the common ground of all religions ; they are centered in the emotions.

Once a religious idea is conceived, it is taught, not by logic, but by assertion. The crowd is led to believe in any idea by the continued assertion of it in short, clear phrases. Moses did not reason with the people to show them the physical and moral value of the ten commandments. Under dramatic circumstances, which fixed the attention, he brought forth the tables of stone with the commandments engraved thereon. Short, clear always asserted in the same words, these laws have had a tremendous effect in shaping human conduct for 3,000 years.

The "Allah is Allah and Mohammed is his prophet" of the Mohammedan has done more to give that religion 200,000,000 followers than any amount of reasoning could have done.

In the same way people are led to believe in any political dogma. Different localities, classes and races have different ideas and interests, hence, different political creeds. These political creeds are bound to clash one with the other, just as religious creeds clash. Both arouse people's emotions.

Any emotion that is not stimulated will die out, but one emotion can be *driven out* only by another and stronger emotion. For example: the resentment at a sudden blow is effective in overcoming the tangled emotions of hysterics.

A people that is composed of conflicting emotional elements is thus forcibly affected by any one emotion, for it contains, within itself, the germs of the destroyer of powerful emotions—other emotions. Difference in emotional elements is exhibited by people of different races, classes and religious belief, so that the crowd action under the influence of any emotion is weakened in a locality that is not

homogeneous in these respects. Thus uniformity of race and religious belief in a community tends to unite and strengthen its action in any emotional crisis, such as that which just precedes war.

Centered in the emotions, religious belief is strongly allied to the other emotions; under stress it manifests itself in the same impulsive ways; and it is stimulated by the same influences.

Each side prays to its God—frequently the same God for both—to guide and protect it and give it the victory.

The causes which excite one emotion seem to have an influence on all the others. We hate the things we fear, etc. The times of greatest stress are those of the greatest emotion of all kinds.

No belief engendered of emotion is tolerant of opposition. No religion is tolerant of any other; in fact, it does all in its power to suppress the other. Still more, no strong believer in one creed is tolerant of the ways of the believer in another. Having different standards, they each have ways forbidden to the other. Under any friction, they are intolerant of each other as well as of each other's ways. Any stimulant to the emotions will increase this intolerance. Whenever friction exists between two localities, difference in religious belief is just one additional cause likely to lead to an emotional crisis in which they will violently clash. Usually difference in religious belief is only a contributing cause, though it may easily be the main one.

Religion has always been more or less mixed with politics. In some of the states the head of the church and of the state is the same person. As soon as the church has temporal power it uses that power to force favors for itself and to oppress any rival creed. All kinds of abuses grow up. Religious dog-

ma in control of affairs is more arbitrary and oppressive than the most unlicensed despot. The most inhuman cruelties that history records have been committed in the name of religion.

Let us suppose that the followers of Confucius began to proselyte in this country, and that China had acquired sufficient unity and military preparedness to be able to protect them to the extent that we protect our missionaries in China. There is no doubt that our animosities would be aroused. If in addition, China was one of our chief economic competitors; insisted on our allowing her certain ports; demanded that certain of our laws conflicting with her religion be not enforced against her citizens; and that we allow her citizens unrestricted liberty to migrate to this country—with the faintest chance of successful resistance, do you think our people would submit? Would they not rise as a unit, overthrow their government, if in accordance with treaty stipulations or for other reasons it opposed them, and fight almost to extinction?

With the requisite power, would China, under the press of economic conditions and a revival of religious sentiment be likely to demand less?

It is futile to reason that wars will cease because this is a Christian world, when there are five other creeds, each having from 100 million to 350 million followers and when 19 centuries have witnessed the contrary and have culminated in a war in which 65 per cent of the Christian population of the world is engaged.

Religious convictions have brought on many wars; never yet have they permanently averted one.

RACE ANTIPATHY.—In early times one race was unaccustomed to the appearance and ways of other races, and man always fearing the unknown, there

was mutual fear and hate. At present we know and see more or less of the external characteristics of all races, but there exists such an internal difference that there still remains a vague mutual fear that is expressed in a shadowy distrust and dislike which is under emotion, quickly kindled into extreme passion.

There is a sentiment of aloofness between an American and a Japanese, for example, which leads to distrust. Each regards the other's life and customs as inferior to his own and this sentiment, like all sentiments in being impossible to analyze and explain, is nevertheless very real and a strong factor in causing friction between the two races.

Between races there are differences of sentiment and mental attitude just as great as of color, figure, and social customs. These different sentiments and mental attitudes are fundamental characteristics of the races and are nearly permanent, changing only under the influence of forces that continue to act in the same direction for many generations.

One of the strongest forces that tends to produce a uniform trend of mind in any fairly homogeneous people is religious belief. We can plainly see the different mental attitudes of the Christian, Mohammedan and Buddhist.

So great is the mental difference between peoples that they can never fully understand one another. You think with not only a different brain but *a different kind of brain* than does your Filipino or negro servant. The impression that a series of words or events makes on your brain differs from that made on his brain by the same words or events. This is so marked that it is impossible to accurately translate any idea from one language to another. For example, the dictionaries give "*pan*" (Spanish) and "bread" (English) as equivalent. To you the

word "bread" brings to mind a mental picture of a large loaf, made without much, if any, lard and with a small proportion of crust and much soft interior; but to the Spaniard, the word "*pan*" brings up a mental picture of a small hard loaf, all crust and made with much lard.

In similar manner *events* make different impressions on different kinds of brains. We are mentally constituted on somewhat the same lines as the Englishman. Given a particular set of circumstances, we can predict within one or two alternative lines of action just what an Englishman will do; but what a Japanese, a Chinaman, a negro or a Filipino will do under *these same* circumstances, or *why*, is entirely beyond our comprehension. By association with one of these peoples we may come to know more nearly what they will do *but never why*.

With peace and plenty and nothing to excite the emotions many may think that race antipathy is of little consequence. To show that this is not the case, it is necessary only to cite an example or two.

When the Asiatic laborer migrates to this country and begins to compete with home labor, how long is it before our labor organizations are taking violent action to suppress the competition? How long could race riots be prevented if the continued admission of Asiatics was forced?

To make it a little more personal, how would you feel about having your daughter or your sister marry a black, yellow or red man? Such marriages are crimes by the laws of several of our states. These are white man's laws. Do you suppose they are accepted meekly by the other races? Though they also have their antipathies to us, do they not rather regard them as an insult?

Race antipathy is in nearly every heart; it takes but little to arouse it.

The only basis of permanent harmonious relations between peoples is community of interest. The more ways in which their interests are identical, the less the liability of that friction which arouses all their emotional differences. Between races, religions and the inhabitants of different climates, this community of interest can never entirely exist. From conflicting interests come long discussions filled with exaggerations (or special pleading) on both sides; then jealousies and hatreds; then injuries and reprisals of various kinds, such as tariff wars or emigration restrictions, till suddenly a psychological wave of emotion makes the opponents fly at each other's throats.

Race antipathy is a mighty force and acts in conjunction with the other emotions as one of the most common causes of war.

Economic Pressure

The dawn of intelligence allowed man to realize the power of combination. When all members of a small community which possessed an abundance could combine their efforts they preserved their supply by keeping out all intruders. They had ample food and plenty of clothing and shelter. The great destroyers—starvation and disease—were checked. Well-nourished parents, able to give better care and shelter to their offspring, made more of the babies grow to maturity. The settlement grew in numbers, becoming more and more powerful. It was increasingly easy to keep out all intruders. Peace and plenty reigned till the increasing numbers needed more supplies than the locality furnished. Then the savage community had to ease the pressure

by going further and further afield to hunt and fish, and finally the settlement had to spread out. Soon it spread to the limit of unoccupied territory and reached lands already occupied. Economic pressure had developed.

In order to insure a sufficient supply for itself, one tribe had to oust the other. The neighbor was confronted by the same necessity. Neither reasoned much about it; the feeling was instinctive. Moved by fear and hate they fought fiercely. Such of the losing tribe as escaped destruction fled to search for some other place of existence not already occupied. Sometimes it happened that such a place was found, but it did not contain the things on which the fallen tribe had been accustomed to live. Wandering about, fearful, homeless, starving, they began to make use of things formerly unknown to them. They searched their world for anything that could be made to serve in maintaining their existence. In this way they found things, formerly unknown to either tribe, that were usable. They had been forced to change their standard of living. By adopting this new standard they could again maintain their existence.

Let us return to the victorious tribe. Some of them had been killed in the conflict, more territory had been made accessible for their occupation, the population was less dense and the supply was again ample for the demand. The era of prosperity that follows every successful war was theirs.

Today the struggle for existence is not so keen, we are less rude than our primitive ancestors, the exterior appearance is somewhat different, but the identical phenomena is evident all about us. There is but one difference: science has made the earth produce many times what it yielded for our ances-

tors. Having learned how to make the earth produce more abundantly, man first turns to that method of increasing his supply. Now the whole world is known and, more or less accessible. This being the case, the great fear of unknown lands has vanished, and man is willing to move elsewhere rather than fight. So the order of events is changed, but the events, in a less rude form, are perfectly evident. We will take them up in succession.

Increase of Population

In the last fifty years the population of the United States has doubled. Compared to the population of the area that was populated at the close of the Civil War, the total population under our flag has quadrupled. The populations of the British Isles, Belgium, Japan, Russia and Germany have increased 50 per cent or more in the same period; those of other lands in proportion to their relative prosperity. In the past forty years, Europe as a whole has increased 52 per cent in population; the greatest increase being in European Russia where it amounted to 90 per cent. Note that Russia is an exporter of products of the earth. She is the only large European country that produces more than she consumes.

Compared to former times, there has been abundance and comparative peace for the last 400 years. In such times, population increases. But, what was abundance for our ancestors, will not satisfy us. Man's desires increase with his prosperity. As individuals, we use more than did our ancestors. Individually we require more. We have better food and clothing, a larger house and more and better transportation. For each individual a greater amount of raw material is consumed.

Feeling safe and well cared for, man is filled with higher emotions. Pleased with his own lot, he is benevolent and philanthropic. He wishes to extend the blessings he enjoys to those less fortunate; to civilize the world. Always, of course, he wants the others to be civilized according to his ideas. He would not consider them civilized unless they imitated him. He is even willing to use force, on occasion, to make the "barbarian" accept his standards. They must accept his dress, his habits, his form of government, his religion, or he would not regard them as civilized. At home, the more wealthy also desire to help their less fortunate compatriots to greater prosperity. Better laws, education, the advantages to be derived from the advances of medical science and sanitation, better clothing, food and houses, the prosperous man is ready and anxious to see extended to all humanity.

Other blessings which make life better and happier, benevolent man seeks to extend to the less fortunate.

He is especially anxious to see all these improvements introduced in lands where such development will open new markets for the things he has to sell. He is creating a market. Such a market really enlarges the area which gives his own country sustenance; for it permits part of the inhabitants to exchange the labor they put into the manufacture and transportation of the goods they export for the products of the earth from the foreign country. The home country can thus obtain the sustenance for a population that its own resources would not support.

Sometimes pride, self-sufficiency and self-aggrandizement are mixed with his better impulses, but on the whole man's best and purest motives predominate.

Since the earliest times, those who had abundance and to spare have given charity to the needy. The Bible records it; all tales of ancient peoples tell it.

As intelligence grew and the ability to make greater combinations came about, man's view broadened, and it was realized that instead of relieving a few individuals in a haphazard way, the possessor of great wealth could do more good by gifts to the public in general. Ancient Rome, in her greatness, had plenty of wealthy and substantial citizens who made large donations to the public. Our wealthy philanthropists are but a type that appears with great prosperity.

All these advances in civilization at home and abroad make life better, more enjoyable and longer. Under these conditions population increases.

In time, these betterments for the human race bring about a condition that defeats their own ends. Increased consumption and longer life of the individual, together with increasing density of population, eventually bring the consumption up to the available supply. Now, man does not go backward in his desires. He ever wants more and more—never less. What were luxuries, partaken of sparingly by our ancestors, are necessities today.

Uncivilized man, except in the coldest climates, gets along very well without shoes. Once he has worn them, however, they become necessities.

As individual needs and density of population both increase, what was formerly abundance soon ceases to supply the needs.

Man has ever loved his home. He does not leave the surroundings to which he is accustomed till he is obliged to do so. The first resort therefore is an attempt to increase nature's yield. Instead of allow-

ing the domestic animals to shift for themselves they are fed and cared for; better methods of farming are sought; the land is terraced and irrigation resorted to, so that otherwise unproductive land may be forced to yield crops; what was formerly wasted is utilized; and, by labor, articles unfit for use are turned into usable form. Eventually, manufacture is undertaken on a large scale and the population grows dense in those areas where trade and industry make the employment of large numbers necessary. These phenomena are not new. About 2200 B. C. Egypt had an artificial lake, used to control the floods of the Nile and regulate irrigation. It had a circuit of 150 miles and the remains of the dam, still in existence, are 150 feet thick at the base. About 1350 B. C. a canal built for *naval* and commercial purposes, connected the Nile with the Red Sea.

About 2000 B. C. Babylon had an extensive irrigation system covering a valley 300 miles long. Within the last five years German commercial enterprise has been at work reconnoitering this irrigation system so it could be again used. Increase of knowledge and better means of communication and transportation have rendered man's radius of action larger, so similar projects are more numerous and more magnificent than ever before and the distinctive areas are increased in size, but the manifestations have existed before. They occurred in Bactra, Egypt, Babylonia, Rome and Ancient Mexico, just as they do today. They mean that the land is becoming filled to its capacity.

Other symptoms, that are shown by each state in succession, as it ceases to expand in area and the population begins to use more than is produced at home—symptoms of internal pressure—are:

Excessive crowding into the cities.

High cost of living, accompanied by demands that the government shall ease the suffering of some class at the expense of others.

Increased influence of women in politics, whether directly or indirectly.

Sterility among the women of the upper classes.

It is very hard to trace the connection between some of these manifestations and their cause. Why they appear we do not understand; that they do appear we know. They signify that the population has increased to an amount beyond the ability of existing resources to support in their present comfort. Prosperity is not so rampant as it was, but still the supply can be forced to meet the demand. The struggle has commenced, but it is not so severe as to be actual hardship. The population continues to increase, but more slowly.

Migration and Density of Population

At length, finding his home country full to overflowing, man's next expedient is to spread out over a greater area.

In the past, he sometimes went to live in areas that were less densely populated; sometimes he sought and found uninhabited areas and there, as much as his new environment permitted, established his old manner of life.

Since the geographical discoveries of the latter part of the 15th century, the expansion into new localities has been continuous; prosperity, compared to former times, has been unbounded, and the population everywhere has increased enormously. This can not continue longer. The whole world from Pole to Pole is known, and, so far as it will naturally support a population, it is inhabited. Where one place is overcrowded, the only recourse is to expand into one less densely populated.

In considering the population that an area will support, we must bear in mind its nature. The Arctic regions, the Sahara, the desert and marshy areas of other lands are by nature unsuited to supporting but an insignificant population. So, also, in any particular country, there are areas that are very productive and areas that produce very little. Further, some areas are so located that industry and trade flourish there, and they hold a dense population that is supplied with necessities from elsewhere. Now, neither trade nor manufacture produce anything. Trade moves articles about. It increases human happiness by carrying to all the desirable articles which are produced only in restricted localities and by insuring against famine following the temporary failure of production in one locality. It increases human well-being and conduces to happiness, but, it not only does not produce a thing, it really consumes the materials used in the construction of carriers, and loses or spoils a percentage of the articles it transports during the process of this transportation.

Manufacture merely changes the form of products. True, it renders some available for consumption that could not otherwise be of service; but, also it makes others more acceptable and increases the rate of their consumption without greatly adding to the service they render; and, it also uses up material in the construction of its factories and machines that is thus lost to other consumption. Those engaged in manufacture produce nothing, but they consume the products of other areas. Areas devoted largely to trade or manufacture are not self-supporting. They must be constantly furnished with products from without their borders, and, if this supply is restricted or ceases, they languish or die out. When the outside supply begins to dwindle there is a cry for some

force to compel a greater flow. If the raw products can be had from within the borders controlled by the same government, the cry is for laws to force them to be supplied. That such laws are ineffective can be seen from our own case, where since 1893 the stream of laws on this subject has been incessant, but the result has been inappreciable as shown by the continued increase in the price of necessities. All ancient civilization had this cry, Rome in particular. All modern civilization now has it. Export laws, to keep needed articles at home; tariffs to keep out competing articles that can be produced more cheaply elsewhere; agrarian laws; and laws against trusts are all signs that part or all of the community does not produce enough to supply its needs.

When laws are enacted that help the industries of one country at the expense of those of another, resentment is great; popular feeling and prejudice is aroused; race antipathy and religious antagonism appear more strongly; in short, man's primitive emotions are beginning to show. The complacent benevolent attitude toward the neighboring country ceases. The struggle of force against force is beginning. If the stress increases, the change of attitude will become more apparent, suspicion, jealousy and hate from time to time blaze up; the emotions of both sides are more and more aroused. These are the materials of which war is made.

Similarly, when laws that apply to the internal administration of a country bring out these antagonisms, they array one faction against another. They are the beginnings of rebellion and revolution. Continued increase in their severity will arouse the passions that lead to armed conflict. The Thirteen Colonies did not dream of separation from England till English laws were economically oppressive.

“If the conditions of civilization aroused violent desires, without supplying the means of satisfying them, the result will be general discontent and unrest which will influence conduct and provoke upheavals of every kind.”

Internal discontent has been most marked in England for some years past. With this in mind look at the following table:

British Isles produce as follows:

Edible Grains -----	27%	} of what they consume.
Meats -----	53%	
Dairy products -----	62%	
Poultry -----	58%	}
Fruits -----	21%	
Vegetables -----	90%	

At present, Great Britain, France, Germany, Belgium, Austro-Hungary and Japan do not produce enough to meet the needs of their inhabitants. They have to depend on the pay for the labor they expend in manufacture to secure for them the products of the earth they consume.¹

The enlightenment of India and China will increase their wants; stable government and knowledge of medical science and sanitation will largely increase their population. They now consume all they produce and are densely populated as they well can be. Their demand to be allowed to spread out is becoming increasingly loud and persistent.

“The awakening of China is more marvelous than in Japan, and as these great people in China

¹Food products used that are produced at home:

Great Britain -----	53%
Belgium -----	57%
Germany -----	88%
France -----	92%
Austro-Hungary -----	98%

(Figures by U. S. Dept. of Agriculture)

rise to the civilization of modern days and engage in manufactures and in production of all which man produces, we will enter into a series of competitive efforts with the Far East which have never been equalled in this world of ours.”¹

The following table shows the density of populations:

		Acres Per Inhabitant
United States.....	23.9	with colonies.... 21.9
France	3.34	with colonies.... 29.8
Germany	2.06	with colonies.... 10.1
Great Britain.....	1.72	with colonies.... 19.3
Belgium .....		..... .96
Russia .....		..... 33
Austro-Hungary .....		..... 3.26
Japan (with Formosa).....		..... 2.25
India .....		..... 3.86
China .....		..... 6.84
Mexico .....		..... 33
Argentine .....		..... 97
Brazil .....		..... 98
Sahara .....		..... 1200
Kansas .....		..... 30
Rhode Island.....		..... 1.26
Europe .....		..... 5.9
Asia .....		..... 12
Africa .....		..... 43
N. America.....		..... 47
S. America.....		..... 125
Australasia .....		..... 277
Australia .....		..... 351
Whole Earth.....		..... 21.9

As a curiosity, note that the United States, with her colonies, has exactly the same average density of population as has the whole earth; also, that she is the only great nation that increased the density of her whole population by taking colonies. This latter may be the main reason why her colonies are of comparatively little value to her economically.

Viewing the above table in conjunction with a consideration of the unproductive and sparsely in-

¹Representative Mann.

habited areas of all the continents, we see that Europe and Asia are now full to overflowing; Africa and North America still have some room, but it is being rapidly occupied; while South America and Australia can well support a larger population than they now contain.

While England rules the seas and the inhabitants of Australia evince their present firm intention of keeping Australia for the Australians and back that determination with force, we may leave that continent out of consideration.

South America is the only place that offers a tempting location for the expansion of the overcrowded people of the more densely populated regions. Such expansion may be by immigration or by conquest. It will undoubtedly take place.

At the present rate of increase the whole earth will be filled to capacity in less than 50 years.¹

Continent	Present population + 67½ per cent	If populated as densely as Asia now is	Difference plus or minus
Europe -----	670,000,000	198,000,000	+472,000,000
Asia -----	1,507,000,000	900,000,000	+607,000,000
Africa -----	284,000,000	608,000,000	—324,000,000
N. America -----	184,000,000	424,000,000	—240,000,000
S. America -----	58,000,000	368,000,000	—310,000,000
Australasia -----	13,000,000	182,000,000	—169,000,000
Surplus, Europe and Asia -----			1,079,000,000
Can accommodate (remainder of world) -----			1,043,000,000

This leaves 36,000,000 people and all consumption over the Asiatic standard to be provided for by increased production of the earth.

¹When I first made this statement, the person to whom I was talking seemed to doubt it, so a little mathematical deduction is added to show why it is true.

No one doubts that Asia is now filled to capacity. We will take Asia as a standard. She has 12 acres per inhabitant, or over 52 persons to the square mile.

If the population of the earth increases at the present rate of 67½% for each fifty years, the results may be tabulated as follows:

This filling up will be complicated by attempts of the inhabitants of particular localities to preserve their own piece of the earth for themselves and their descendants; by long standing antipathies of race and antagonisms of religion; in short, by those primeval feelings of fear, jealousy and hate that arouse the deep-seated emotions of a people and leave them to rely solely upon force to attain their ends. Witness the attitude of our western states toward the Orientals who are seeking to locate in their midst.

The power of greater and greater combination, that has come with the increase of intelligence, will make the struggle a battle of giants. No longer will the fate of a continent be decided in an obscure place in an engagement of 15,000 men, both sides included. The next struggle for South America will not be won by an Ayacucho—a battle so little known that I may well add that it was fought in Peru on December 9, 1824, and is regarded as the decisive battle of the wars that freed South America from Spain.

In order to bring out more clearly the exact relation between the standard of living, and the density of population where that standard obtains, let us make a comparison. In so doing, we must remember that our comparison will not be exact for the reason that many minor factors enter that cannot be considered.

It so happens that the density of population in the whole United States and in Kansas is about the same, Kansas being somewhat less densely populated, compared with the average for the country.

Maine, Minnesota and Oklahoma are a little nearer the average, but, for other reasons, are not so well adapted to comparison.

Kansas is a typical agricultural state that subsists on its own products or articles for which these

products are exchanged. Very little labor, in the form of manufactures, is exchanged for products from beyond her borders. Kansas feeds herself. Besides being an average state in regard to density of population, Kansas may be regarded as a fair average in intelligence, education, wealth and standard of living. She has about 30 acres for each inhabitant. It is average land, some good, some poor, but on the whole it will average as well as the land of the country. Her average yield is about 15 bushels of wheat to the acre—not more, perhaps less. This is a great staple. Kansas produces many other crops, but she would not plant so largely in wheat if others were vastly more profitable.

Counting on the proverbial family of five, the breadwinner in Kansas has 150 acres of land on which the sustenance for his family must be produced. Not all of this can be cultivated. Some of it is covered by houses and other structures; by roads, railroads and electric roads; and by barren sands, marshes and the beds of streams. We must deduct an average of, say, 20 per cent, or 30 acres, for these areas that produce nothing. There is available 120 acres that will each year produce 1,800 bushels of wheat, of a value of \$1,800. For each member of the family there is, roughly, a bushel of wheat per day.

Manifestly, if the Kansan lived solely on wheat, or equally cheap and nutritious food for which he exchanged the wheat, he would not consume a bushel per day.

If he lived in the cheapest sort of a house (such as a sod house) constructed by himself from materials on his land, and dressed in the cheapest sort of clothing, he could exist on, say, eight quarts a day. Part he would eat; part would be exchanged for

equally cheap and nutritious foods; and part exchanged for absolutely essential fuel, clothing, bedding, furniture and utensils. A part he must pay for taxes. He would have no machinery. Under these conditions human labor is cheaper than machinery. For this reason, ships are now coaled in the Far East by endless chains of human hands.

Now, this is approximately the standard of living of the Chinaman. With that standard, the Kansan could be sustained on one-quarter his present number of acres.

China also exchanges little labor for products that come from without her borders. Considering the vast swamp and greater desert and barren areas in China, the average Chinaman has a smaller percentage of his share of land in a form that can be used to produce things to meet his needs, but he makes use of little bits that the Kansan covers with fences, excessively broad roads, etc., or does not use at all. He has almost no roads, but the dykes that he uses for roads also cover a fraction of the soil.

Out of his average of 6.84 acres per head, or 34.2 acres per family of five, we will deduct a little less than 20 per cent, say, 6.2 acres. This leaves 28 acres for the Chinaman's family of five, or a little less than one-quarter that allotted to the Kansan. This proportion approximates the relative costs of their standards of living.

Now, this demonstration is, of course, far from exact or conclusive; nevertheless, it gives a fairly clear conception of the case. If Kansas had four times as many inhabitants confined within her borders, as China's inhabitants are confined within her borders, the standard of living in Kansas would approximate the standard of living in China.

Further, the standard of education and morals would soon degenerate to the Chinese level. The

Chinaman, laboring 16 or 18 hours a day to maintain his existence, has neither the time to obtain an education nor the means to pay for the necessary paraphernalia and instruction.

What we call refinement is not synonymous with laboring in filth 16 hours a day, dressed in a rag, and going home at the end of that time to repose in a hovel among a company that sleeps in one heap, with the windows and doors closed to keep out the cold.

Fuel, sanitation, ventilation, air space, privacy in the toilet, and individual beds and bed covering, cost both in money to procure and time to use and keep in condition. Without these and others things refinement does not exist. It is a luxury the Chinaman cannot afford.

Man is not born with high moral sentiments. They are developed through education, living in proper surroundings, association with others who are imbued with such sentiments, and reflection on moral principles. The average Chinaman's mind is occupied solely with the subject of maintaining an existence. His mind ceased to develop at an early age, when it became necessary for him to labor unceasingly to help maintain the family. He has no opportunity to obtain moral sentiments.

Education, refinement and high moral sentiments are a function of the time and money that is spent on them. Under the same conditions the average Kansan, in two generations, would degenerate to approximately the same level.

Now, as Kansas about typifies the whole United States, we may say that, with approximately four times its present population and no tributary country, the standard of education, refinement and moral sentiment in the United States would approach that now existing in China.

You may say that Belgium has a population seven times as dense as that of China. True, but the soil of Belgium is vastly more productive than that of China, and, what is vastly more important, Belgium lives by manufacture. She is so located that her inhabitants can exchange their labor for products that come from without her borders, and she has large colonial possessions. The British Isles are also populated three times as densely as China, but they live by manufacture and have a vast tributary domain in which to dispose of their products. Considering her colonies, Great Britain has three times as many acres per individual as has China. Even this is not enough. The discontent and unrest in England is evidence that it is not enough. Rhode Island is settled nearly as thickly as Belgium. She also lives by manufacture. It was not chance, but industrial conditions, that made Rhode Island produce the man who, above all others, stood out as the champion of laws to force a high price for manufactured articles by a tariff that would keep out of the country the same class of articles produced more cheaply elsewhere. Rhode Island to exist must have markets. She demands laws to force the agricultural areas to help support her. The condition is not new. It existed in Ancient Rome, among other places, and, a greater proportion of the citizens of the Republic making the demand, it had to be satisfied. The result was internal dissensions that brought about the fall of Rome.

The results of such a condition will always be similar. If the demand is very strong and is not met, rebellion results; if it is met, and the action taken is sufficiently drastic in its effect on a foreign country, war results.

Belgium, Great Britain, Germany, and all other localities where the population is dense, must find markets. Naturally, the markets are not unending. There is a limit to the amount of labor that can be exchanged for products of the earth. The first sign that the limit is reached is a rise in the value of the products—increased cost of living. Relief is to be permanently found only in an increased production of the earth or a decrease in the consumption. For the whole earth, such a decrease, at present, is more likely to be by a lowering of the standard of living than by a decrease in population. Resistance to having the standard of living forced down will always occur, being prompt and violent.

So many factors enter that calculation is but a guess. However, for the sake of illustration of the conditions now existing, let us take a view of the figures.

The world over there is an average of 21.9 acres per inhabitant. The total land area is divided as follows:

Polar regions	-----almost uninhabitable-----	10%
Desert	-----sparsely inhabitable-----	8%
Steppe	----- (grazing land) thinly habitable-----	27%
Fertile	-----inhabitable-----	55%

Compared with all the land on earth, the soil of the United States must be fully 50 per cent more productive than the average. We may say that 16 acres per inhabitant, of land such as the United States averages, is what is required in order to give a standard of living that is an average of the standards that now exist on the earth. Compare this with the density of population in Europe and Asia. It is plain that as their standard rises, ours must come down. In spite of religious antagonisms, race prejudices and the desire to live in familiar surroundings natural to all men, the inhabitants of those con-

tinents are migrating to less thickly populated localities, of which the United States is one. The time is coming when we can no longer afford to receive them. With our population of mixed nationalities and races, the suppression of immigration to our shores is bound to bring out great animosity, both at home and abroad.

The thirteen original states, when they gained their independence had less than 4,000,000 inhabitants. They now have nine times that number, and average but seven acres per inhabitant. Their population has doubled every fifty years.

The areas that have come under our rule since the Revolution increase in population at about the same rate.

There is no need for violent alarm. As the population becomes more dense, the rate of increase becomes less from natural causes; there are many, relatively small unproductive areas, that can be made to produce; and science may be able to make the productive areas yield more abundantly. On the other hand, as long as prosperity continues in any section, the population there will continue to increase; every advance of medical science that makes man live longer increases the density of population; and every enlightenment of a degraded people increases their consumption.

The world's area will not grow. There is no second land crop. The density of population in the habitable world is greater on the average than in the United States. All over the world the internal pressure is beginning to develop. The average standard of living must be forced down as the population of the earth grows. In the civilized world, it must go down relatively in order that the increased demand of the uncivilized, who become more enlight-

ened, may be supplied. This movement is now in its beginning.

The rapid growth of socialism represents the white man's demand for laws to compel someone else to help support him. Strikes and acts of the Industrial Workers of the World are evidence that force will be resorted to unless the demand is heeded.

The results of these forces, interwoven with many other motives, such as discontent at the flood of laws, which, however good in themselves, result in the aggregate in a curtailment of personal liberty, the religious and race hatreds which grow under adversity, etc., are the symptoms of that friction which grow into those resentments which see in the use of physical force the only source of relief.

The enlightenment of China, Japan and India is accompanied by an increasing demand for opportunity to spread out. The Russo-Japanese War is evidence that force will be resorted to if migration is otherwise impossible. The war in Europe voices the demand for markets and also for a chance to spread out. Germany demanded her "place in the sun." Other nations could not afford to give up the place.

The friction all over the world is increasing because the stress that comes from supply failing to meet demand is being felt.

There will be some who are constitutionally unable to understand this condition. The "pacifists" who are thoroughly imbued with that particular idea will be unable to understand it, particularly, if they are not participants in the heat of the economic struggle.

"The enthusiast who is dominated by an idea, religious or otherwise, is inaccessible to reasoning, however intelligent he may be."¹ The same rule holds

¹LeBon.

· true for those who will advocate the use of force to obtain their economic ends. Reason will be less and less effective against the emotions that are brought out by vague uneasiness for the future. The ever-increasing economic stress oppresses men's bodies and minds till it arouses that most elementary of emotions, fear. The ever present fear, that bears on men's souls till communities are in that, almost hypnotic, crowd state that immediately precedes the time when, following some comparatively trivial incident, passion bursts forth in fury; emotion reigns supreme; and war is inevitable.



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